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PROGRAMME

OF THE

THIRTY EIGHTH MEETING

OF THE

AMERICAN ASSOCIATION

FOR THE

ADVANCEMENT OF SCIENCE,

COMMENCING TUESDAY, AUGUST 25TH, AND CLOSING TUESDAY,
SEPTEMBER 3RD, 1896.

AT

THE UNIVERSITY BUILDINGS, TORONTO.

PUBLISHED BY THE LOCAL COMMITTEE

PROGRAMME
OF THE
THIRTY-EIGHTH MEETING
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1889.

3079

OFFICERS

OF THE

TORONTO MEETING.

PRESIDENT.

T. C. MENDENHALL, of Washington.

VICE-PRESIDENTS.

- A.** *Mathematics and Astronomy*—R. S. WOODWARD, of Washington.
- B.** *Physics*—H. S. CARHART, of Ann Arbor, Mich.
- C.** *Chemistry*—WILLIAM L. DUDLEY, of Nashville, Tenn.
- D.** *Mechanical Science and Engineering*—ARTHUR BEARDSLEY, of Swarthmore, Pa. (Unable to be present.)
- E.** *Geology and Geography*—CHARLES A. WHITE, of Washington
- F.** *Biology*—GEORGE L. GOODALE, of Cambridge, Mass.
- H.** *Anthropology*—GARRICK MALLERY, of Washington.
- I.** *Economic Science and Statistics*—CHARLES S. HILL, of Washington.

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FRANK BAKER, of Washington.

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- A.** *Mathematics and Astronomy*—G. C. COMSTOCK, of Madison, Wis.
- B.** *Physics*—E. L. NICHOLS, of Ithaca, N.Y.
- C.** *Chemistry*—EDWARD HART, of Easton, Pa.
- D.** *Mechanical Science and Engineering*—JAMES E. DENTON, of Hoboken, N.J.
- E.** *Geology and Geography*—JOHN C. BRANNER, of Little Rock, Ark.
- F.** *Biology*—AMOS W. BUTLER, of Brookville, Ind.
- H.** *Anthropology*—W. M. BEAUCHAMP, of Baldwinsville, N.Y.
- I.** *Economic Science and Statistics*—J. R. DODGE, of Washington.

TREASURER.

WILLIAM LILLY, of Mauch Chunk, Pa.

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From the Association at Large—A fellow elected from each section. (The eight fellows acting at the Cleveland Meeting hold over until the new election.) WILLIAM HARKNESS (A), FRANCIS H. SMITH (B), EDW. HART (C), OLIN H. LANDRETH (D), ALEX. WINCHELL (E), J. B. SMITH (F), A. W. BUTLER (H), EDWARD ATKINSON (I).

 A Meeting of the Council will be held at the Queen's Hotel on Front Street, Toronto, at noon on Tuesday, August 27.

LOCAL COMMITTEE FOR THE TORONTO MEETING.

President, - - - CHARLES CARPMAEL, M.A., F.R.A.S.
Treasurer, - - - JAMES BAIN, JR.
Secretary, - - - PROF. JAMES LOUDON. M.A.

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Rev. B. D. Thomas, D.D., Rev. J. R. Teefy, M.A., Rev. Brother Tobias, J. A. Temple, M.D., Samuel Trees, C. W. Taylor, H. Thorne, James Tilt, Q.C., D. E. Thomson, James Turner, F. H. Torrington.

Rev. Father Vincent, W. H. VanderSmisen, M.A.

Sir Daniel Wilson, LL.D., Rev. Joseph Wild, D.D., David Walker, Sheriff Widdifield, C. W. Wagner, D. R. Wilkie, B. E. Walker, F. Wyld, Hon. S. C. Wood, R. M. Wells, M.A., William Williamson, Thomas West, A. H. Wright, M.D., Prof. R. W. Wright, M.A., J. B. Willmott, Sir Adam Wilson, J. E. White, M.D., R. Irving Walker.

G. W. Yarker.

SUB-COMMITTEES.

EXECUTIVE COMMITTEE.

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Secretary—PROF. LOUDON.

Assistant Secretaries—W. H. FRASER, M.A., H. H. LANGTON, B.A.

Hon. G. W. Allan, James Bain, Prof. Baker, Rev. Provost Body, Dr. Brodie, C. W. Bunting, W. R. Callaway, Mayor E. F. Clarke, Arthur Cox, H. W. Darling, Rev. Dr. Dewart, Ald. E. K. Dodds, H. P. Dwight, Prof. Ellis, Prof. Galbraith, Ald. Gibbs, James Hedley, H. J. Hill, W. S. Lee, A. Ma. ling, Alan Macdougall, J. H. Mason, E. A. Meredith, W. McCulloch, Thomas McGaw, Ald. McMillan, J. H. Pearce, Rev. J. R. Teefy, D. R. Wilkie, Sir Daniel Wilson, Prof. A. H. Wright, Prof. R. R. Wright, E. Wragge.

RECEPTION COMMITTEE.

Chairman—E. KING DODDS.

Secretary—THOS. SANDERSON.

W. H. Beatty, Dr. Bryce, B. Cumberland, Prof. Baker, A. M. Cosby, Dr. Davison, Prof. Ellis, Ald. Gibbs, Dr. Hodgins, John Hoskin, Prof. Loudon, Principal Kirkland, Wm. Macdonald, W. B. McMurrich, Dr. C. Sullivan, Ald. McMillan, J. H. Pearce, Rev. J. R. Teefy, Prof. A. H. Wright, Prof. R. R. Wright, Dr. J. E. White, W. H. Vander Smissen.

COMMITTEE ON HOTELS.

Chairman—THOMAS MCGAW.

Secretary—W. MCCULLOCH.

D. Boyle, H. J. Hill, John Hallam, Robert Jaffray, Bernard Saunders, David Walker, J. Wright.

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Secretary—G. SWEETNAM, JR.

Arthur Cox, D. B. Dick, A. Blue, O. S. Howland, R. E. Kingsford, H. Neilson, Dr. Rosebrugh, Prof. Shuttleworth, J. D. Irwin.

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Secretary—W. R. CALLAWAY.

Hugh Blain, B. Cumberland, P. H. Drayton, H. J. Hill, H. S. Howland, N. Kingsmill, F. Nichols, H. Merritt, Wm. Badenach, P. J. Slatter.

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Secretary—JAMES BAIN.

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COMMITTEE ON ROOMS.

Chairman—A. MARLING.

Secretary—A. F. CHAMBERLAIN.

G. Dickson, F. Darling, J. L. Hughes, D. R. Keys, John Squair.

PRINTING COMMITTEE.

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Secretary—G. ADAMSON.

Prof. Ashley, D. Boyle, J. M. Clark, W. Houston, Dr. Pyne, G. M. Rae, G. Kennedy.

PRESS COMMITTEE.

Chairman—JAMES HEDLEY.

Secretary—R. T. LANCEFIELD.

T. B. Browning, C. R. W. Biggar, H. Brock, D. Creighton, John Cameron, E. Farrar, W. F. Maclean, J. R. Robertson, A. S. Irving, W. G. Eakins, C. W. Taylor, Rev. Dr. Dewart.

ANNOUNCEMENT OF THE PERMANENT SECRETARY.

Members will please call at the office of the Permanent Secretary as soon as possible after arrival, to receive their members' tickets. Members will register at the table of the Local Committee and receive their badges *after* obtaining their tickets.

Attention is directed to the following rule relating to members families :

“Every member of the Association shall have the privilege of registering members of his family, not including men over twenty-one years of age, by paying the sum of three dollars for each person so registered, and shall receive for them specific badges which will entitle the holder thereof to such privileges as may be extended to the members generally by the Local Committee for the meeting.”

All assessments and admission fees must be paid at the office of the Permanent Secretary, and the assessment for the meeting must be paid before registering and receiving the Association badge.

Newly elected members will obtain their certificates of membership at the office of the Permanent Secretary, upon payment of the admission fee of \$5.00 and assessment of \$3.00.

Members will please report any change of permanent address, or the decease of other members, at the office of the Permanent Secretary.

Blanks for entering the Titles of Communications and for Recommendation to Membership can be obtained in the Local Committee Room.

Subscriptions for the Toronto volume of “Proceedings” will be taken at the office of the Permanent Secretary; and subscriptions are solicited from the friends of the Association, and from such members as wish to obtain duplicate copies of the volume. Every person subscribing \$1.50 or more will receive a copy of the volume as soon as published.

The volumes of the “Proceedings” of the Association can be obtained from the Permanent Secretary, at the price of \$1.50 per volume ; or any member wishing for ten or more volumes in order to complete a set, may obtain them at \$1.00 per volume. The volumes may be had bound in cloth at the extra price of 50 cents each, or in half Morocco at the extra

price of \$1.00 each. Uniform cloth covers for the volumes will be furnished by mail at 30 cents each, or by express at 25 cents each. Samples can be seen and orders given at the office. The "Memoir on Fossil Butterflies," 4to, 1875, by S. H. Scudder, published by the donation of Mrs. Elizabeth Thompson, will be furnished at \$2.00 a copy, or at \$3.50 bound in half Morocco. "The Transactions of the American Association of Geologists and Naturalists," 1 vol., 8vo., 1843, bound in cloth, can be obtained at \$3.00 a copy, or bound in half Morocco, uniform with the "Proceedings," for \$4.00.

The CLEVELAND VOLUME OF PROCEEDINGS was issued in July and has been sent from the Salem office to all members who paid the Cleveland assessment previous to August 20th. Those paying since that date, and those who pay back assessments at the present meeting, will receive the volumes to which they are entitled after the adjournment of this meeting.

ANNOUNCEMENT OF THE COUNCIL.

The Council calls attention to the following extracts from the Constitution of the Association, and to the statement in relation to papers :

MEMBERS, FELLOWS, LIFE MEMBERS AND PATRONS.

ART. 3. Any person may become a member of the Association upon recommendation in writing by two members or fellows, and election by the Council.

(Blank forms for recommendation to membership can be had in the Local Committee Room. Recommendations should reach the Secretary of the Council as early as possible each day. *Those received after 9 a.m. cannot be acted upon until next day.*)

ART. 4. Fellows shall be elected by the Council from such of the members as are professionally engaged in science, or have by their labors aided in advancing science. The election of the Fellows shall be by ballot, and a majority vote of the members of the Council at a designated meeting.

(Special blanks for the nomination of Fellows can be had of the Permanent Secretary.)

ART. 5. Any person paying to the Association the sum of one thousand dollars shall be classed as a Patron, and shall be entitled to all the privileges of a member, and to all its publications.

ART. 7. The name of any member or fellow two years in arrears for annual dues shall be erased from the list of the Association, provided that two notices of indebtedness, at an interval of at least three months, shall have been given ; and no such person shall be restored until he has paid his arrears or has been re-elected.

ART. 34. The admission fee for members shall be \$5.00, in addition to the annual assessment. (These must be paid for the meeting at which the election is announced.) On the election of any member as a fellow ; an additional fee of \$2.00 shall be paid.

ART. 35. The annual assessment for members and fellows shall be \$3.00.

ART. 36. Any member or fellow who shall pay the sum of fifty dollars to the Association, at any one time, shall become a Life Member, and as such shall be exempt from all further assessments, and shall be entitled to the Proceedings of the Association. All money thus received shall be invested as a permanent fund, the income of which, during the life of the member, shall form a part of the general fund of the Association; but after his death, shall be used only to assist in original research, unless otherwise directed by the unanimous vote of the Council. (New members becoming Life Members must pay the admission fee of \$5.00.)

ART. 37. All admission fees and assessments must be paid to the Permanent Secretary (or his Assistant), who shall give proper receipts for the same.

ART. 28. All members and fellows must forward to the Permanent Secretary, as early as possible, and, when practicable, before the convening of the Association, full titles of all the papers which they propose to present during the meeting, with a statement of the time that each will occupy in delivery, and also such abstracts of their contents as will give a general idea of their nature; and no title shall be referred by the Council to the Sectional Committee until an abstract of the paper, or the paper itself, has been received.

ART. 31. Authors must prepare their papers or abstracts ready for the press, and these must be in the hands of the Secretaries of the Sections before the final adjournment of the meeting, otherwise only the titles will appear in the printed volume. The Council shall have power to order the printing of any paper by abstract or title only.

ART. 25. A paper shall not be read in any section or sub-section until it has been received from the Council, and placed on the programme of the day by the Sectional Committee

. The titles of papers will not be given out until they are put on the programme by the Sectional Committees, and a paper will not be accepted by the Committee *unless accompanied by a proper abstract*. Blank forms for the giving titles and abstracts of papers can be had in the Local Committee room. The Council particularly calls attention to the fact that *papers cannot be received after 9 o'clock, Monday morning, September 2nd.*

ANNOUNCEMENTS OF THE LOCAL COMMITTEE.

ROOMS.

By the courtesy of the authorities the meetings of the Association will be held in the University Buildings, the School of Practical Science, and Association Hall.

The opening Session and all the morning General Sessions will be held in the University Convocation Hall. The final General Session on Tuesday evening will be held in Association Hall.

SECTION ROOMS.

Sections A, B, D, E, H, I, will meet in the main University Building in rooms Nos. 4, 8, 5, 7, and in Convocation Hall on the ground floor.

Section C will meet in the School of Practical Science.

Section F will meet in the new Biological Building.

The Council will meet in the University Senate Chamber.

OFFICES.

The offices of the Permanent and Local Secretaries are in Room 2, first door left of the entrance, University Building.

POST OFFICE, TELEGRAPH AND TELEPHONE.

The P.O. and Telegraph Offices are in Room 1, University Building.

The Great North Western Telegraph Co. will send free over its own lines, short social messages, when stamped by the Local Secretary. Such messages to the United States will accordingly be charged half the usual rates.

Telephone rooms will be found at the main entrance.

WRITING ROOM.

A writing room is provided adjacent to the Library, second floor of the University Building.

LADIES' ROOM.

Room on ground floor, University Building.

BADGES.

Members of the Association, and Associates, will register at the desk of the Local Secretary after they have obtained their assessment receipt from the Permanent Secretary. Each member and associate will then receive a badge stamped with the number corresponding the name printed in the daily list of arrivals. These badges will entitle the owner to all the privileges extended to the Association.

Special badges are prepared for the members of the Botanical and Entomological Clubs, which may be obtained from the officers of those clubs.

• Special badges are also made for the Local Committee and its officers, and for representatives of the Press. These may be obtained of the Local Secretary.

The colors of the badges are as follows :

Membership—Coral.

Entomological Club—Dark Terra Cotta.

Botanical Club—Dark Green.

Local Committee—Blue.

The Press—Red.

LUNCH.

• A lunch, free to all wearing the above badges, will be provided daily except on Saturday and Sunday in the Dining Hall at the north-west corner of the Quadrangle, Main Building.

HOTEL HEADQUARTERS.

The Ladies' Parlor at the Queen's is placed at the disposal of the ladies and gentlemen of the Association, and the Gentlemen's Parlor will be used by Committees and for an evening office.

RECEPTIONS AND EXCURSIONS.

The various events prepared for the entertainment of the members of the Association will be given in detail in the daily programmes. Attention is especially directed to the necessity of registering for the Saturday Excursions.

MESSENGER SERVICE.

Messenger boys, who can be employed for any light service by payment of the customary fee, will be found at the P. O. and Telegraph room.

All botanists, members of the Association, are requested to Register at room 7, in the University Buildings, as soon as practicable after their arrival. They will be furnished with special badges.

The ordinary hour meetings of the Botanical Club of the Association will be held in the room assigned to it, on Thursday, Friday, Monday and Tuesday, at 9 o'clock a. m.

ENTOMOLOGICAL CLUB.

The Entomological Club will meet daily at 9 a. m., in room assigned in the University Buildings.

PUBLICATION IN THE PRESS.

The daily newspapers of Toronto will publish full reports of the meetings, the papers read, and the discussions held. If authors will kindly provide abstracts of their papers in advance (not those sent to the Council), the printing will greatly be facilitated. Such matter should be addressed to James Hedley, Chairman of the Committee on the Press, at office of the Local Secretary, who will hold the abstracts from publication until the papers have been read in the sections.

CANADIAN INSTITUTE.

The Reading Room, Library and Museum of the Canadian Institute, 46 Richmond Street East, will be open to the members, daily, from 10 a. m. to 6 p. m.

RECEPTION BY CITY COUNCIL AND CITIZENS.

A reception will be given in the Pavilion, Horticultural Gardens, by the City Council and Citizens, on Wednesday evening at 9 o'clock. A promenade concert will take place in the same place on Thursday evening at 8 o'clock; and a garden party will be given on Tuesday afternoon, September 3rd, in the grounds of Government House, by the kind permission of His Honor the Lieutenant-Governor of the Province.

MANITOBA INDUSTRIAL COLLECTION.

Members are invited to visit the collection of industrial and agricultural products of the Province of Manitoba, in the building at the corner of York and Front street.

STREET CAR SERVICE.

Arrangements have been made for a service of street cars, to leave the Queen's Hotel in time for the morning session.

OMNIBUSES

Will leave the Queen's Hotel at 8.30, 9 and 9.30 for the University, returning between 5 and 6 ; fare for round trip, 25 cents.

[Special programmes will be issued every morning, except Saturday and Sunday.]

PROGRAMME FOR THE WEEK.

Tuesday, August 27th.

Meeting of the Council in Queen's Hotel, at noon.

Wednesday, August 28th.

Meeting of the Council at 9 o'clock in the Senate Chamber, University building.

Organization of the Association meeting in general session at 10 o'clock, in Convocation Hall, University building.

Meeting called to order by the retiring President, MAJOR J. W. POWELL, of Washington.

Resignation of the Chair to the President elect, PROF. T. C. MENDENHALL, of Washington.

Addresses of welcome by the Chairman of the Local Committee, the Minister of Education, the Senate of the University, and the Mayor of the City.

Reply by President MENDENHALL.

Announcements by the General Secretary.

Announcements by the Permanent Secretary.

Announcements by the Local Secretary.

Agreement on the hours of meeting (the Council recommends that, with the exception of Saturday, morning sessions begin at 10 and close at 12.30, and that the afternoon sessions begin at 2).

General business.

Adjournment of the General Session, followed by the organization of the Sections in their respective halls.

The attention of Officers of the Sections is called to the following :

Each section will proceed at once to form the following Committees :

Election by ballot of one Fellow to the Council.

Election by ballot, after open nomination, of three Fellows who, with the Vice-President and Secretary, shall form the Sectional Committee. (After organization this Committee has power to fill its vacancies without action of the Section).

Election of one Member or Fellow to the Nominating Committee.

Election of three Members or Fellows to act with the Vice-President and Secretary of the Section as the Sub-Committee to recommend to the Nominating Committee the Vice-President and Secretary of the next meeting.

(In case of a vacancy in the office of a *Secretary of a Section*, the Section will at once fill the vacancy by nomination of a Fellow and election by ballot. Vacancies in the office of Vice-President are filled by nomination of the Council and election in General Session).

The Secretaries will report the organization of their respective Sections to the General Secretary at the earliest moment possible.

The Sectional Committees will prepare the programmes of their respective Sections for Thursday, and give the same to the Permanent Secretary as early as possible (and not later than 5 o'clock) on Wednesday afternoon. Copy for the programme for each day must be given to the Permanent Secretary before 5:30 p.m. of the day preceding.

SECTION A.—MATHEMATICS AND ASTRONOMY.

Vice-President—R. S. WOODWARD, of Washington.

Secretary—G. C. COMSTOCK, of Madison, Wis.

SECTION B.—PHYSICS.

Vice-President—H. S. CARHART, of Ann Arbor, Mich.

Secretary—E. I. NICHOLS, of Ithaca, N. Y.

SECTION C.—CHEMISTRY.

Vice-President—WILLIAM L. DUDLEY, of Nashville, Tenn.

Secretary—EDWARD HART, of Easton, PA.

SECTION D.—MECHANICAL SCIENCE AND ENGINEERING.

Vice-President—(Vacancy to be filled in General Session in the morning.)

Secretary—JAMES E. DENTON, of Hoboken, N.J.

SECTION E.—GEOLOGY AND GEOGRAPHY.

Vice-President—CHARLES A. WHITE, of Washington.

Secretary—JOHN C. BANNER, of Little Rock, Ark.

SECTION F.—BIOLOGY.

Vice-President—GEORGE L. GOODALE, of Cambridge, Mass.

Secretary—A. W. BUTLER, of Brookville, Ind.

SECTION H.—ANTHROPOLOGY.

Vice-President—GARRICK MALLERY, of Washington.

Secretary—W. M. BEAUCHAMP, of Baldwinsville, N.Y.

SECTION I.—ECONOMIC SCIENCE AND STATISTICS.

Vice-President—CHARLES S. HILL, of Washington.

Secretary—J. R. DODGE, of Washington.

Afternoon.

Addresses of the Vice-Presidents in Section Halls as follows :

AT HALF-PAST TWO O'CLOCK.

In Hall of Section B.

Vice-President CARHART, before Section B.

In Hall of Section H.

Vice-President MALLERY, before Section H.

In Hall of Section I.

Vice-President HILL, before Section I.

In Hall of Section E.

Vice-President WHITE, before Section E.

AT FOUR O'CLOCK.

In Hall of Section A.

Vice-President WOODWARD, before Section A.

In Hall of Section F.

Vice-President GOODALE, before Section F.

In Hall of Section C.

Vice-President DUDLEY, before Section C.

Evening.

General Session in the Pavilion, Horticultural Gardens, at 8 o'clock.

Address of the retiring President, Major J. W. POWELL, of Washington.

Reception at 9 o'clock by City Council and citizens.

The citizens of Toronto are specially invited to attend the General Sessions in the morning and the several addresses in the afternoon and evening.

*Thursday, August 29.***Morning.**

Meeting of the Council at 9 o'clock.

General Session from 10 to 10:15 o'clock.

Meetings of the Sections in their several halls at 10:15 o'clock.

[The daily programme will give the titles of papers to be read in each Section].

Afternoon.

Meeting of the Sections at 2 o'clock.

Evening.

Evening Promenade Concert in Horticultural Gardens, tendered by City Council and citizens, at 8 o'clock.

*Friday, August 30.***Morning.**

Meeting of the Council at 9 o'clock.

General Session from 10 to 10:15 o'clock.

Meeting of the Sections at 10:15 o'clock.

Afternoon.

Meeting of the Sections from 2 to 5 o'clock.

From 5 to 7 o'clock Mr. and Mrs. W. H. Beatty, Queen's Park, will receive the Members of the Association.

At 8 o'clock, in the Pavilion, Horticultural Gardens, Mr. G. K. Gilbert, of the United States Geological Survey, will deliver a lecture on the Geological History of Niagara River. This lecture is complimentary to the citizens of Toronto.

Saturday, August 31.

(No Sessions to-day.)

There will be two excursions given by the Local Committee to the members of the Association, one to Niagara Falls, the other to Muskoka. Particulars will be given in Friday's programme. Members intending to go on either excursion must register before Friday at noon.

*Monday, September 2.***Morning.**

Meeting of the Council at 9 o'clock.

(The Special Committees must present their reports to the Council not later than this morning, and the Council will advise the discharge of all Committees not reporting).

General Session from 10 to 10:15 o'clock.

Meeting of the Sections at 10:15 o'clock.

Afternoon.

Meeting of the Sections at 2 o'clock.

Evening.

At 8 o'clock in the Pavilion, Horticultural Gardens, Dr. H. Carrington Bolton, of New York, will deliver a lecture entitled, "Four Weeks in the Desert of Mount Sinai," illustrated by projections of original photographs. This lecture is complimentary to the citizens of Toronto.

Meeting of the Nominating Committee at The Queen's, at 10 o'clock, to nominate officers for next year, and to suggest time and place for the next meeting of the Association.

*Tuesday, September 3.***Morning.**

Meeting of the Council at 9 o'clock.

GENERAL SESSION at 10 o'clock.

Election of Officers and Agreement on time and place of Meeting for 1890.

General business.

Meeting of the Sections after the adjournment of the General Session.

Afternoon.

Meeting of the Sections at 2 o'clock.

Final adjournment of the Sections.

Garden party in Government House grounds, from 5 to 7 o'clock, tendered by the City Council and Citizens.

Evening.

GENERAL SESSION in Association Hall, Yonge Street, at 8 o'clock.

Concluding exercises and adjournment of the Association.

After the adjournment of the meeting there will be several excursions, particulars of which will be given in a future programme. These excursions close the Thirty-eighth Meeting on September 10th.

DECEASED MEMBERS.

WM. B. BELKNAP, Louisville, Ky., (29).

SAMUEL N. BELL, Manchester, N.H., (7). Died Feb. 8, 1889.

MICHAEL EUGENE CHEVREUL, Paris, France, Honorary Fellow. Died in 1888, aged 101 years.

WRIGHT LEWIS COFFINBERRY, Grand Rapids, Mich., (20). Died Mar. 26, 1889.

EDW. DANFORTH, Elmira, N.Y., (11). Died June 13, 1888.

EDWARD EVANS, Streator, Ill., (30). Died May 5, 1889.

SAMUEL MORSE FELTON, Philadelphia, Pa., (29). Died Jan. 24, 1889.

JOSEPH FICKLIN, Columbia, Mo., (20). Died Sept. 6, 1887.

HERBERT C. FOOTE, Cleveland, Ohio, (35). Died Aug. 24, 1888.

OSCAR HARGER, New Haven, Conn., (25). Died Nov. 6, 1887.

EDW. J. HOLMES, Boston, Mass., (29). Died in July, 1889.

EDW. P. HOWLAND, Washington, D.C., (29). Died August, 1888.

RENSSELAER LEONARD, Mauch Chunk, Pa., (33). Died Oct. 26, 1888.

EDW. S. PHILBRICK, Brookline, Mass., (29). Died Feb. 13, 1889.

EDW. SIMPSON, Washington, D.C., (28). Died Dec. 1, 1888.

E. G. SQUIER, New York, N.Y., (18). Died 1888.

JOHN NICHOLAS TILEMAN, Sandy, Utah, (33). Died Sept. 4, 1888.

HENRY WHITALL, Camden, N.J., (33).

G. M. WILBER, Pine Plains, N.Y., (19).

C. H. WILSON, Belize, British Honduras, (30).

MRS. MARY C. V. WILSON, Mobile, Ala., (37). Died June 24, 1889.

CHARLES VANDER WORLD, Waltham, Mass., (29). Died Dec. 29, 1888.

WILLIAM CORNELIUS WYCKOFF, New York, N.Y., (20). Died May 2, 1888.

LIST OF MEMBERS AND ASSOCIATES

IN ATTENDANCE AT THE MEETING.

[Additional arrivals will be given in the Programme for each day.]

Tuesday, August 27th.

Number of Register and Badge.	City Address.
1. T. C. Mendenhall, Washington, D.C.....	Queen's Hotel.
2. F. W. Putnam, Cambridge, Mass.	Queen's Hotel.
3. Charles C. Abbott, Trenton, N.J.....	Queen's Hotel.
4. James Loudon, Toronto.....	83 St. George St.
5. Charles Carpmael, Toronto	Dale Ave.
6. James D. Dana, New Haven, Conn.....	Queen's Hotel.
7. Sir Daniel Wilson, Toronto.....	46 St. George St.
8. C. A. White, Washington, D.C.....	Queen's Hotel.
9. Henrietta L. T. Wolcott, Dedham, Mass.....	467 Spadina Ave.
10. J. J. Stevenson, Univ. of City of New York....	Queen's Hotel.
11. Samuel Calvin, Iowa City.....	Metropole Hotel.
12. W. M. Beauchamp, Baldwinsville, N.Y.....	Metropole Hotel.
13. N H Winchell, Minneapolis.....	
14. Charles B. Gibson, Chicago	576 Church St.
15. H. D. Garrison, Chicago	Walker House.
16. Herman L. Fairchild, Rochester, N.Y.....	29 Grange Ave.
17. Mrs. H. L. Fairchild, Rochester, N.Y.....	29 Grange Ave.
18. Daniel S. Martin, New York.....	29 Grange Ave.
19. A. E. Douglass, New York.....	Rossin House.
20. Edward Hart, Easton, Pa.....	Rossin House.
21. Mrs. Edward Hart, Easton, Pa.....	Rossin House.
22. H. W. Wiley, Washington, D.C.....	Rossin House.
23. Mrs. Nellie S. Kedzie, Manhattan, Kan.....	Queen's Hotel.
24. E. Lewis Sturtevant, South Framingham, Mass..	Queen's Hotel.
25. T. J. Burrill Champaign, Ill....	79 Shuter St.
26. Charles H. Smith, Austin, Tex.....	333 Church St.
27. William Frear, State College, Pa.....	Queen's Hotel.

28. Fred. V. Coville, Washington, D.C.....Queen's Hotel.
29. Horatio N. Chute, Ann Arbor, Mich.....44 Hayden St.
30. George L. English, Philadelphia, Pa.....580 Church St.
31. M. A. Scovell, Lexington, Ky.....Rossin House.
32. Edward Goldsmith, Philadelphia, Pa.....Club.
33. A. W. Vogdes, Fort Hamilton, N.Y. Har Queen's Hotel.
34. Mrs A. W. Vogdes, Fort Hamilton, N.Y. Har.. Queen's Hotel.
35. A. J. Cook, Agricultural College, Mich.....31 College Ave.
36. Benjamin W. Snow, Ithaca, N.Y.....
37. A. S. Tiffany, Davenport, IowaInternational Hotel.
38. John A. Myers, Morgantown, W. VaRossin House.
39. H. Carrington Bolton, New York Queen's Hotel.
40. I. C. White, Morgantown, W. Va..... Queen's Hotel.
41. B. E. Fernow, Washington, D.CRossin House.
42. John C. Branner, Little Rock, Ark. Queen's Hotel.
43. N. C. Husted, Tarrytown-on-Hudson, N.Y.... Walker House.
44. William H. Dall, Washington, D.C..... Queen's Hotel.
45. H. H. Nicholson, Lincoln, Neb. Queen's Hotel.
46. David F. Day, Buffalo, N.Y..... Queen's Hotel.
47. Mrs. David F. Day, Buffalo, N.Y..... Queen's Hotel.
48. Robert T. Hill, Austin, Tex..... Queen's Hotel.
49. Mrs. Robert T. Hill, Austin, Tex..... Queen's Hotel.
50. Elroy M. Avery, Cleveland, O Queen's Hotel.
51. William L. Dudley, Nashville, Tenn..... Queen's Hotel.
52. Charles C. Abbott, Trenton, N.J.....* Queen's Hotel.
53. C. Leo Mees, Terre Haute, Ind. Queen's Hotel.
54. Miss Ella Eaton, Northampton, Mass.....
55. G. Frederick Wright, Oberlin, Ohio.....86 Charles St.
56. P. N. Schuyler, Bellevue, Ohio..... Walker House.
57. James Lewis Howe, Louisville, Kentucky 25 Murray St.
58. Miss Katie M. Dudek, New York29 Grange Ave.
59. Jeannette B. Greene, New York.....29 Grange Ave.
60. J. C. Arthur, La Fayette, Ind.....
61. R. C. Kedzie, Lansing, Mich..... Queen's Hotel.
62. Samuel W. Very, Annapolis, Md..... Keachie's Hotel.
63. G. N. Merryweather, Cincinnati, O..... Walker House.
64. G. C. Broadhead, Columbia, Mo..... Walker House.
65.
66. L. O. Howard, Washington, D.C.....
67. Mrs. Esther Herrman, New York Queen's Hotel.
68. Edgar L. Larkin, Galesburg, Ill.....
69. Mrs. J. R. Dodge, Washington, D.C..... Queen's Hotel.
70. J. Richards Dodge, Washington, D.C..... Queen's Hotel.

71. John B. Tweedale, St. Thomas, Ont.....
72. William Saunders, Ottawa, Ont.....Rossin House.
73. Walter F. Ferrier, New Brunswick, N.J.....174 Carlton St.
74. William H. Seaman, Washington, D.C.....40 Ann St.
75. Thomas Taylor, Washington, D.C.....11 Linden St.
76. D. H. Oppenheim, New York,.....Queen's Hotel.
77. Mrs. S. Oppenheim, New York.....Queen's Hotel.
78. W. J. Beal, Agricultural College, Mich.....31 Avenue St.
79. Mrs. W. J. Beal, Agricultural College, Mich...31 Avenue St.
80. Timothy F. Allen, New York.....Queen's Hotel.
81. P. R. Hoy, Racine, Wis.....24 Ann St.
82. W. H. Ellis, Toronto, Ont.....University College.
83. G. W. Lehmann, Baltimore, Md.....Queen's Hotel.
84. Mrs. G. W. Lehmann, Baltimore, Md... ..Queen's Hotel.
85. William R. Lazenby, Columbus, O.....Queen's Hotel.
86. A. P. S. Stewart, Lincoln, Neb.....24 Ann St.
87. Mrs. A. P. S. Stewart, Lincoln, Neb.....24 Ann St
88. George C. Caldwell, Ithaca, N.Y....."The Grange."
89. R. T. Colburn, Elizabeth, N.Y.....
90. Mrs. R. T. Colburn, Elizabeth, N.Y.....
91. J. H. Kedzie, Evanstown, Ill.....Queen's Hotel.
92. Mrs. J. H. Kedzie, Evanstown, Ill.....Queen's Hotel
93. O. Chanute, Chicago, Ill.....Queen's Hotel.
94. W. J. McGee, Washington, D.C... ..Rossin House.
95. Alexander Winchell, Ann Arbor, Mich.....Walker House.
96. J. F. Cowell, Buffalo, N.Y.....Walker House.
97. Charles E. Bessey, Lincoln, Neb.....Walker House.
98. F. Lamson Scribner, Knoxville, Tenn.....30 King St.
99. Eugene E. Fish, Buffalo, N.Y.....Walker House.
100. Mary A. Booth, Longmeadow, Mass.....
101. W. Le Conte Stevens, Brooklyn, N.Y.....Queen's Hotel.
102. Archibald Blue, Toronto, Ont.....11 Linden St.
103. E. W. Hyde, Cincinnati, O.....Palmer House.
104. Angelo Heilprin, Philadelphia, Pa.....Rossin House.
105. Thomas Meehan, Philadelphia, Pa.....Queen's Hotel.
106. A. L. Arey, Rochester, N.Y.....10 North St.
107. James T. B. Ives, Toronto.....429 Spadina Ave.
108. Mrs. A. L. Arey, Rochester, N.Y.....10 North St.
109. William Jay Youmans, New York.....Arlington Hotel.
110. Mrs. Celia G. Youmans, Mount Vernon, N.Y..Arlington Hotel
111. William R. Pedrick, Lawrence, Mass.....31 Avenue St.
112. Eleanor B. Pedrick, Lawrence, Mass.....31 Avenue St.
113. Martha M. Barker, Lowell, Mass.....31 Avenue St

114. W. O Atwater, Middletown, Conn. Queen's Hotel.
115. Amos W. Butler, Brookville, Ind. Walker House.
116. Mrs. A. W. Butler, Brookville, Ind. Walker House.
117. Henry S Carhart, Ann Arbor, Mich. Walker House.
118. John B. Smith, New Brunswick, N.J. Keachie's Hotel.
119. W. H. Walmsley, Philadelphia, Pa. Rossin House.
120. James N. Baxter, Brooklyn, N.Y. Rossin House.
121. Mary B. Moody, New Haven, Conn.
122. Arthur E. B. Moody New Haven, Conn.
123. Bushrod W. James, Philadelphia, Pa. Queen's Hotel.
124. John Collett, Indianapolis, Ind. Rossin House
125. Mrs. John Lucas, Philadelphia, Pa. "Ernesleigh."
126. Miss H. A. Kittredge, North Andover, Mass. . . Queen's Hotel.
127. Miss C. A. Watson, Salem, Mass. Queen's Hotel.
128. Thomas D. Robertson, Rockford, Ill. Queen's Hotel.
129. Mrs. Thomas D. Robertson, Rockford Ill. . . . Queen's Hotel.
130. C. A. Hirschfelder, Toronto.
131. George Lincoln Goodale, Cambridge, Mass. . . . Queen's Hotel.
132. George F. Barker, Philadelphia, Pa. Queen's Hotel.
133. Mrs George F. Barker, Philadelphia, Pa. Queen's Hotel.
134. Miss Clara T. Barker, Philadelphia, Pa. Queen's Hotel.
135. James Hall, Albany, N.Y. Queen's Hotel.
136.
137. Thomas J. Hill, Washington, D.C. Queen's Hotel.

MEMBERS ELECTED.

August 27, 1889.

1. Henry C. Appleton, Publisher, 1 Bond St., New York. **E I**
2. Ad. F. Bandelier, Santa Fe, N. M. **H**
3. William D. Boardman, 38 Kenilworth St., Roxbury, Mass. **E**
4. Prof. Theo. Brantly, College of Montana, Deer Lodge, Mont. T. **H I**
5. Prof. Wm. T. Brooks, Mass. Agric. College, Amherst, Mass. **C F**
6. Prof. George Bryce, LL.D., Manitoba College, Winnipeg, Manitoba. **H**
7. Capt. Thos. L. Casey, U. S. Engineer, Army Building, New York, N.Y. **F**
8. Alexander F. Chamberlain, 34 Arthur St., Toronto, Ont. **H**
9. Royal Tyler Church, Turin, Lewis Co., N.Y. **D F**
10. William A. Croffut, U. S. Geological Survey, Washington. **H I**
11. Susan J. Cunningham, Prof of Mathematics and Astronomy, Swarthmore College, Swarthmore, Pa. **A**
12. John Daniel, Instructor in Physics, Vanderbilt Univ., Nashville, Tenn. **B**
13. John M. Davison, 60 Oxford St , Rochester, N.Y. **C**
14. Luther M. Donaldson, care National Fertilizer Co., Nashville, Tenn. **C**
15. Fred. James Dorand, Chester, Vt. **A I**
16. W. A. Douglass, B.A , 220 Wellesley St., Toronto, Ont. **I**
17. Charles Redway Dryer, Assistant Indiana State Geological Survey, Fort Wayne, Ind. **E**
18. Frank E. Emery, Geneva, Ontario Co., N.Y. **F**
19. Howard V. Frost, Prof. of Chemistry in the Brooklyn Polytechnic Institute, Arlington, Mass. **C**
20. Edwin Brant Frost, Inst. in Astronomy and Physics, Dartmouth Col., Hanover, N. H.
21. Rev. Otis Allan Glazebrook, D.D., Elizabeth, N.J.
22. G. K. Greene, New Albany, Ind. **E F**
23. Thos. Gray, Prof. Dynamic, Engineering, Rose Polytechnic Inst., Terre Haute, Ind.
24. James Cleland Hamilton, M.A., LL.B., Toronto, Ont.
25. Rev. Gottlieb C. H. Hasskarl, Syracuse, N.Y.
26. John Beazley Hastings, Mining Engineer, Ketchum ,Allatunas Co., Idaho. **E**

27. John Blackstock Hawley, Engineer of St. Paul Water-Works, St. Paul, Minn. **B**
28. Walter J. Hoffman, M.D., Bureau of Ethnology, Washington, D.C. **H**
29. Lewis E Hood, E. Somerville, Mass. **F**
30. Thomas Hopkins, Assistant Geological Survey of Arkansas, Little Rock, Ark. **E**
31. Walter Hough, Ass't Department of Ethnology, U. S. National Museum, Washington, D.C. **H**
32. James T. Hoyt, Temple Court, Beekman St., New York. **A H**
33. Andrew F. Hunter, Barrie Ont. **B H**
34. Dr. John Amory Jeffries, 91 Newbury St., Boston, Mass. **F**
35. Thos. Moore Jackson, C.E., Prof. Civil Engineering, W. Va. University, Morgantown, W. Va.
36. J. Floyd King, New York Hotel, New York, N.Y. **D**
37. Otto Julius Klotz, Field Astronomer, Dominion Governm't, Preston, Ont.
38. William Roscoe Livermore, Maj. of Eng., U. S. A., Newport, R.I. **C**
39. Alan Macdougall, F. R. S., Edin., Toronto, Ont. **D I**
40. Jos. E. McDougall, Maritime Court, 121 Carleton St., Toronto, Ont.
41. Charles E. McGowan, M.D., New London, Conn. **E**
42. Rev. John McLean, M.A., Ph.D., Macleod, Alberta, Can.
43. Alexander Chas. McKay, Mathematical Master, Upper Canada College, Toronto.
44. Artemas Martin, Librarian and Custodian of Archives, Coast Survey Office, Washington, D.C. **A**
45. Charles C. Mellon, Vice-Pres. Iron City Microscopical Society, Pittsburgh, Pa. **F**
46. Wm Hamilton Merritt, 40 St. George street, Toronto. **E I**
47. Cosmos Mindeleff, Bureau of Ethnology, Washington, D.C. **H**
48. Victor Mindeleff, Bureau of Ethnology, Washington, D.C. **H**
49. James Mooney, Bureau of Ethnology, Washington, D.C. **H**
50. Frank Newton Notestein, Prof. of Mathematics and Astronomy, The College of Montana, Deer Lodge, M.T. **A F**
51. George D. Olds, Prof. of Mathematics, Univ. of Rochester, Rochester, N.Y. **A**
52. Frank Owen Payne, Teacher of Science, Appleton, Minn. **F**
53. Dr. R. A. F. Penrose, jr., State Geological Survey, Little Rock, Ark. **E**
54. Ernest B. Perry, Ann Arbor, Mich. **D**
55. George H. Peters, Hartford, Conn. **A B**

56. Eben Putnam, Boston, Mass. **HI**
57. James Cochrane Quinn, Prof. of Mental and Moral Philosophy,
National Univ., Chicago, Helena, Montana. **EFHI**
58. Taylor Reed, Princeton, N.J. **A**
59. A. H. Russell, Captain of Ordnance, U.S.A., Providence, R.I. **D**
60. Harris J. Ryan, Asst. Prof. of Electrical Engineering, Cornell
Univ., Ithaca, N.Y. **B**
61. George S. Ryleston, 60 College Ave., Toronto, Ont. **F**
62. Wm. H. Seaman, Prof. Analytical Chemistry, School of Mines,
Univ. of Missouri, Rolla, Mo.
63. G. N. Saegmuller, Washington, D.C. **AB**
64. John R. Scupham, C. & M. Engineer, Oakland, Cal. **E**
65. Dilman B. Shantz, Berlin, Ont. **I**
66. Porter W. Shimer, E.M., Easton, Pa. **C**
67. Frank T. Shutt, M.A., Chemist to the Dominion Experimental
Farms, Ottawa, Ont. **C**
68. De Cost Smith, Skaneateles, N.Y. **H**
69. Joseph B. Stearns, Camden, Maine. **B**
70. Francis L. Stewart, Murraysville, Pa. **CF**
71. Henry Newlin Stokes, Ph. D., Chemical Laboratory, U.S. Geo-
logical Survey, Washington, D.C. **CE**
72. Charles Stuart Street, 38 Kenilworth St., Roxbury, Mass. **EC**
73. Charles B. Thwing, Instructor in Physics, North-Western Univ.,
Evanston, Ill. **B**
74. Gerritt E. H. Weaver, Instructor in Swarthmore College, Swarth-
more, Pa. **F**
75. Miss Nellie B. West, 56 W. 55th St., New York, N.Y. **E**
76. Prof. T. R. White, 353 W. 57th St., New York, N.Y. **HA**
77. Prof. W. P. Wilson, 640 North 32nd St., Philadelphia, Pa. **F**
78. S. Grant Wright, Perrysville, Ind. **F**
79. Harrison Garman, Entomologist and Botanist, State Exper. Station,
Lexington, Ky. **F**
80. Prof. John W. Hartigan, W. Va. University, Morgantown, W.
Va. **F**
81. Chs. W. Hastings, Kansas City, Mo. **B**
82. Wm. Houston, Govt Library, Toronto, Ont. **I**
83. Walter Hough, Nat. Museum, Washington, D.C. **H**
84. James Gibson Hume, Univ. College, Toronto. **I**
85. Herbert G. Ogden, U.S. Coast and Geodetic Survey, Washington,
D.C. **AB**
86. Frank Fitz Payne, Meteorological Office, Toronto. **B**
87. James H. Pearce, Toronto, Ont. **F**
88. John Edward White, Toronto, Ont. **F**
89. James G. Wilton, University College, Toronto, Ont. **B**

90. Prof. R. Ramsay Wright, Toronto, Ont. **F**
91. Prof. Cha. W. Hargitt, Oxford, Ohio.
92. John H. Means, Geological Survey, Little Rock, Ark. **E**
93. William Kennedy, Geological Survey, Little Rock, Ark. **E H**
94. Leon Stacy Griswold, Geol. Survey, Little Rock, Ark. **E**
95. Thos. Hopkins, Geol. Survey, Little Rock, Ark. **E**
96. Dr. Andrew C. Lawson, Ottawa, Canada. **E**
97. John Perrin, Mount Royal Park, Montreal. **B**
98. F. W. Kuhne, Fort Wayne, Ind.
99. A. Isabel Mulford, Orange, N.J. **F**
100. John Galbraith, Prof. Civil Engineering, Toronto. **A**
101. Archibald Hope Young, Upper Canada College, Toronto. **H**
102. Henry H. Wing, Cornell Univ. Expt. Station, Ithaca, N. Y.
103. Gales P. Thruston, Nashville, Tenn **H**
104. Clarence M. Weed, Ohio Expt. Station, Columbus, O. **F**
105. William Macdonald, Toronto, Ont.
106. Thomas Shortiss, Toronto, Ont. **D E**
107. Peter Bryce, Secy. Board of Health, Toronto, Ont.
108. Archibald B. Macallum, University College, Toronto, Canada.
109. W. Reynolds Singleton, Washington. **H**
110. Dr. Thomas J. W. Burgess, Hamilton, Ont. **F**
111. Asaph Hall, Jr., U. S. Naval Observatory, Washington. **A**

AMERICAN ASSOCIATION

FOR THE

ADVANCEMENT OF SCIENCE,

Programme for Thursday. August 29th

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TORONTO MEETING.

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- B.** *Physics*—H. S. CARHART, of Ann Arbor, Mich.
- C.** *Chemistry*—WILLIAM L. DUDLEY, of Nashville, Tenn.
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- E.** *Geology and Geography*—CHARLES A. WHITE, of Washington.
- F.** *Biology*—GEORGE L. GOODALE, of Cambridge, Mass.
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- I.** *Economic Science and Statistics*—CHARLES S. HILL, of Washington.

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- B. *Physics*—E. L. NICHOLS, of Ithaca, N. Y.
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- D. *Mechanical Science and Engineering*—W. B. WARNER, of Cleveland, O.
- E. *Geology and Geography*—JOHN C. BRANNER, of Little Rock, Ark.
- F. *Biology*—AMOS W. BUTLER, of Brookville, Ind.
- H. *Anthropology*—W. M. BEAUCHAMP, of Baldwinsville, N. Y.
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ANNOUNCEMENT OF THE PERMANENT SECRETARY.

Members will please call at the office of the Permanent Secretary as soon as possible after arrival, to receive their members' tickets. Members will register at the table of the Local Committee and receive their badges *after* obtaining their tickets.

Attention is directed to the following rule relating to members families :

“ Every member of the Association shall have the privilege of registering members of his family, not including men over twenty-one years of age, by paying the sum of three dollars for each person so registered, and shall receive for them specific badges which will entitle the holder thereof to such privileges as may be extended to the members generally by the Local Committee for the meeting.”

All assessments and admission fees must be paid at the office of the Permanent Secretary, and the assessment for the meeting must be paid before registering and receiving the Association badge.

Newly elected members will obtain their certificates of membership at the office of the Permanent Secretary, upon payment of the admission fee of \$5.00 and assessment of \$3.00.

Members will please report any change of permanent address, or the decease of other members, at the office of the Permanent Secretary.

Blanks for entering the Titles of Communications and for Recommendation to Membership can be obtained in the Local Committee Room.

Subscriptions for the Toronto volume of “Proceedings” will be taken at the office of the Permanent Secretary; and subscriptions are solicited from the friends of the Association, and from such members as wish to obtain duplicate copies of the volume. Every person subscribing \$1.50 or more will receive a copy of the volume as soon as published.

The volumes of the “Proceedings” of the Association can be obtained from the Permanent Secretary, at the price of \$1.50 per volume ; or any member wishing for ten or more volumes in order to complete a set, may obtain them at \$1.00 per volume. The volumes may be had bound in cloth at the extra price of 50 cents each, or in half Morocco at the extra

price of \$1.00 each. Uniform cloth covers for the volumes will be furnished by mail at 30 cents each, or by express at 25 cents each. Samples can be seen and orders given at the office. The "Memoir on Fossil Butterflies," 4to, 1875, by S. H. Scudder, published by the donation of Mrs. Elizabeth Thompson, will be furnished at \$2.00 a copy, or at \$3.50 bound in half Morocco. "The Transactions of the American Association of Geologists and Naturalists," 1 vol., 8vo., 1843, bound in cloth, can be obtained at \$3.00 a copy, or bound in half Morocco, uniform with the "Proceedings," for \$4.00.

The CLEVELAND VOLUME OF PROCEEDINGS was issued in July and has been sent from the Salem office to all members who paid the Cleveland assessment previous to August 20th. Those paying since that date, and those who pay back assessments at the present meeting, will receive the volumes to which they are entitled after the adjournment of this meeting.

ANNOUNCEMENT OF THE COUNCIL.

The Council calls attention to the following extracts from the Constitution of the Association, and to the statement in relation to papers :

MEMBERS, FELLOWS, LIFE MEMBERS AND PATRONS.

ART. 3. Any person may become a member of the Association upon recommendation in writing by two members or fellows, and election by the Council.

(Blank forms for recommendation to membership can be had in the Local Committee Room. Recommendations should reach the Secretary of the Council as early as possible each day. *Those received after 9 a.m. cannot be acted upon until next day.*)

ART. 4. Fellows shall be elected by the Council from such of the members as are professionally engaged in science, or have by their labors aided in advancing science. The election of the Fellows shall be by ballot, and a majority vote of the members of the Council at a designated meeting.

(Special blanks for the nomination of Fellows can be had of the Permanent Secretary.)

ART. 5. Any person paying to the Association the sum of one thousand dollars shall be classed as a Patron, and shall be entitled to all the privileges of a member, and to all its publications.

ART. 7. The name of any member or fellow two years in arrears for annual dues shall be erased from the list of the Association, provided that two notices of indebtedness, at an interval of at least three months, shall have been given ; and no such person shall be restored until he has paid his arrears or has been re-elected.

ART. 34. The admission fee for members shall be \$5.00, in addition to the annual assessment. (These must be paid for the meeting at which the election is announced.) On the election of any member as a fellow an additional fee of \$2.00 shall be paid.

ART. 35. The annual assessment for members and fellows shall be \$3.00.

ART. 36. Any member or fellow who shall pay the sum of fifty dollars to the Association, at any one time, shall become a Life Member, and as such shall be exempt from all further assessments, and shall be entitled to the Proceedings of the Association. All money thus received shall be invested as a permanent fund, the income of which, during the life of the member, shall form a part of the general fund of the Association; but after his death, shall be used only to assist in original research, unless otherwise directed by the unanimous vote of the Council. (New members becoming Life Members must pay the admission fee of \$5.00.)

ART. 37. All admission fees and assessments must be paid to the Permanent Secretary (or his Assistant), who shall give proper receipts for the same.

ART. 28. All members and fellows must forward to the Permanent Secretary, as early as possible, and, when practicable, before the convening of the Association, full titles of all the papers which they propose to present during the meeting, with a statement of the time that each will occupy in delivery, and also such abstracts of their contents as will give a general idea of their nature; and no title shall be referred by the Council to the Sectional Committee until an abstract of the paper, or the paper itself, has been received.

ART. 31. Authors must prepare their papers or abstracts ready for the press, and these must be in the hands of the Secretaries of the Sections before the final adjournment of the meeting, otherwise only the titles will appear in the printed volume. The Council shall have power to order the printing of any paper by abstract or title only.

ART. 25. A paper shall not be read in any section or sub-section until it has been received from the Council, and placed on the programme of the day by the Sectional Committee.

. The titles of papers will not be given out until they are put on the programme by the Sectional Committees, and a paper will not be accepted by the Committee *unless accompanied by a proper abstract*. Blank forms for the giving titles and abstracts of papers can be had in the Local Committee room. The Council particularly calls attention to the fact that *papers cannot be received after 9 o'clock, Monday morning, September 2nd.*

ANNOUNCEMENTS OF THE LOCAL COMMITTEE.

ROOMS.

By the courtesy of the authorities the meetings of the Association will be held in the University Buildings, the School of Practical Science, and Association Hall.

The opening Session and all the morning General Sessions will be held in the University Convocation Hall. The final General Session on Tuesday evening will be held in Association Hall.

SECTION ROOMS.

Sections A, B, D, E, H, I, will meet in the main University Building in rooms Nos. 4, 8, 5, 7, and in Convocation Hall on the ground floor, and room on the west end second floor.

Section C will meet in the School of Practical Science.

Section F will meet in the new Biological Building.

The Council will meet in the University Senate Chamber.

OFFICES.

The offices of the Permanent and Local Secretaries are in Room 2, first door left of the entrance, University Building.

POST OFFICE, TELEGRAPH AND TELEPHONE.

The P.O. and Telegraph Offices are in Room 1, University Building.

The Great North Western Telegraph Co. will send free over its own lines, short social messages, when stamped by the Local Secretary. Such messages to the United States will accordingly be charged half the usual rates.

Telephone rooms will be found at the main entrance.

WRITING ROOM.

A writing room is provided adjacent to the Library, second floor of the University Building.

LADIES' ROOM.

Room on ground floor, University Building.

BADGES.

Members of the Association, and Associates, will register at the desk of the Local Secretary after they have obtained their assessment receipt from the Permanent Secretary. Each member and associate will then receive a badge stamped with the number corresponding the name printed in the daily list of arrivals. These badges will entitle the owner to all the privileges extended to the Association.

Special badges are prepared for the members of the Botanical and Entomological Clubs, which may be obtained from the officers of those clubs.

Special badges are also made for the Local Committee and its officers, and for representatives of the Press. These may be obtained of the Local Secretary.

The colors of the badges are as follows :

Membership—Coral.

Entomological Club—Dark Terra Cotta.

Botanical Club—Dark Green.

Local Committee—Blue.

The Press—Red.

LUNCH.

A lunch, free to all wearing the above badges, will be provided daily except on Saturday and Sunday in the Dining Hall at the north-west corner of the Quadrangle, Main Building.

HOTEL HEADQUARTERS.

The Ladies' Parlor at the Queen's is placed at the disposal of the ladies and gentlemen of the Association, and the Gentlemen's Parlor will be used by Committees and for an evening office.

EXCURSIONS AND RECEPTIONS.

Two excursions have been arranged for Saturday, the 31st, for which members must register before four o'clock to-day.

The steamer Cibola will leave Yonge street wharf at 7.00 a.m. sharp, for Niagara-on-the-Lake, thence the excursionists will proceed to the Falls by the Michigan Central Railway.

Returning, the train leaves the Falls at 4.30 p.m.

Lunch will be served in the restaurant in the Queen Victoria Park.

The number is limited to 500.

MUSKOKA.

Tickets for the Muskoka excursion will be good either on the train leaving Toronto at 11 p.m. on Friday, or that leaving at 10.10 a.m. on Saturday. By the former the Pullman car fare is \$1.50. The tickets are good to any point on the lakes, and to return on Monday, reaching Toronto at 4.25 p.m. Arrangements have been made with Mr. Cox, at Port Sandfield, for boarding the excursionists at \$1.50 per day. The number is limited to 200.

Get your railway certificates signed and stamped by the Secretary, Mr. W. R. Callaway. Office on right hand of main entrance.

'THE LADIES' RECEPTION COMMITTEE

meet at the University at 3.30 p.m. Carriages will be in attendance to drive lady members through the north-west part of the city, and out to Erlescourt, where they will be received by Mrs. Foster.

BOTANICAL CLUB.

Members will leave the York street wharf at 2.30 p.m. sharp, by steamer for Scarborough Heights.

THE TORONTO AMATEUR PHOTOGRAPHIC ASSOCIATION

will be happy to place their rooms, in the Medical Council building, corner of Bay and Richmond streets, at the disposal of the members of the Association during their stay in town.

CLUBS.

The President and members of the Granite Club, 465 Church street, offer the privileges of the Club to the members of the Association during their visit to Toronto.

The President and members of the Royal Canadian Yacht Club offer the same privileges at their club house, on the Island.

A GEOLOGICAL MAP

of the Province of Ontario is ready for distribution, and can be obtained at the office of the Local Secretary.

LOCAL COMMITTEE.

MESSENGER SERVICE.

Messenger boys, who can be employed for any light service by payment of the customary fee, will be found at the P. O. and Telegraph room.

All botanists, members of the Association, are requested to Register at room 7 in the University Buildings, as soon as practicable after their arrival. They will be furnished with special badges.

The ordinary hour meetings of the Botanical Club of the Association will be held in the room assigned to it, on Thursday, Friday, Monday and Tuesday, at 9 o'clock a. m.

ENTOMOLOGICAL CLUB.

The Entomological Club will meet daily at 9 a. m., in room assigned in the University Buildings.

PUBLICATION IN THE PRESS.

The daily newspapers of Toronto will publish full reports of the meetings, the papers read, and the discussions held. If authors will kindly provide abstracts of their papers in advance (not those sent to the Council), the printing will greatly be facilitated. Such matter should be addressed to James Hedley, Chairman of the Committee on the Press, at office of the Local Secretary, who will hold the abstracts from publication until the papers have been read in the sections.

CANADIAN INSTITUTE.

The Reading Room, Library and Museum of the Canadian Institute, 46 Richmond Street East, will be open to the members, daily, from 10 a. m. to 6 p. m.

RECEPTION BY CITY COUNCIL AND CITIZENS.

A promenade concert will be given in the Pavilion, Horticultural Gardens, by the City Council and Citizens, on Thursday evening at 8 o'clock; and a garden party will be given on Tuesday afternoon, September 3rd, in the grounds of Government House, by the kind permission of His Honor the Lieutenant-Governor of the Province.

MANITOBA INDUSTRIAL COLLECTION.

Members are invited to visit the collection of industrial and agricultural products of the Province of Manitoba, in the building at the corner of York and Front street.

OMNIBUSES

Will leave the Queen's Hotel, calling at the Rossin House, at 8.30, 9 and 9.30 for the University, returning between 5 and 6; fare for round trip, 25 cents.

[Special programmes will be issued every morning, except Saturday and Sunday.]

Programme for Thursday, August 29.

Morning.

Meeting of the Council at 9 o'clock.

General Session from 10 to 10:15 o'clock.

Meetings of the Sections in their several halls at 10:15 o'clock.

Afternoon.

Meeting of the Sections at 2 o'clock.

Evening.

Promenade Concert and Reception in Horticultural Gardens, tendered by City Council and citizens, at 8 o'clock.

SECTION A.—MATHEMATICS AND ASTRONOMY.

Vice-President—R. S. WOODWARD, of Washington.

Secretary—G. C. COMSTOCK, of Madison, Wis.

Member of the Council.

E. W. HYDE, of Cincinnati, Ohio.

Members of the Sectional Committee.

W. W. BEEMAN, of Ann Arbor, Mich.

HENRY FARQUHAR, of Washington.

Member of the Nominating Committee.

Members of the Sub-committee on Nominations.

H. A. NEWTON, of New Haven, Ct.

WILLIAM HARKNESS, of Washington.

J. R. EASTMAN, of Washington.

PAPERS TO BE READ ON THURSDAY.

8. The New Dearborn Observatory.—10 min.—By G. W. Hough.
7. Astronomical Observations made with the Great Telescope of the Lick Observatory since June, 1888.—25 min.—By Edward S. Holden.
2. A Desideratum in the Presentation of Mathematical Truth.—5 min.
By Charles H. Chandler.
4. Automatic Photographic Transits.—15 min.—By Frank H. Bigelow.
3. A Method of Finding Factors —10 min.—By James D. Warner.
1. On the Graduation of Meridian Circles, *in situ*.—10 min.—By Wm. A. Rogers.
120. On the Use of a Floating Mirror as an Auxiliary to a Meridian Circle, —12 min.—By G. C. Comstock.
121. The Relation Between Stellar Magnitudes, Distances, and Motions.—15 min.—By J. R. Eastman.
10. On the Proper Motions of the Stars in the Harvard College Observatory Zone, between the limits 50° and 55° Declination.—8 min.—By Wm. A. Rogers.
102. Formula for the Probability of any Fact or Occurrence about which any Number of Witnesses Testify.—10 min.—By J. E. Hendrick.

SECTION B.—PHYSICS.

Vice-President—H. S. CARHART, of Ann Arbor, Mich.*Secretary*—E. L. NICHOLS, of Ithaca, N. Y.*Member of the Council.*

W. A. ROGERS, of Waterville, Me.

Members of the Sectional Committee.

W. LE CONTE STEVENS, Brooklyn, N. Y.

A. E. DOLBEAR, College Hill, Mass.

CHARLES CARPMAEL, Toronto.

Member of the Nominating Committee.

JAMES LOUDON, of Toronto.

bers of the Sub-Committee on Nominations.

PAPERS TO BE READ ON THURSDAY.

22. Exhibition of a new Spectroscope Slit.—3 min.—By Romyn Hitchcock.
23. Exhibition of a Thermometer with constant Zero Point.—3 min.—By Romyn Hitchcock.
110. The Measurement of Magnification in the Microscope.—15 min.—By W. Le Conte Stephens.
17. Concerning Thermometers.—20 min.—By Wm. A. Rogers and R. S. Woodward.
18. Experimental Proof of Newton's Law of Cooling.—8 min.—By Wm. A. Rogers.
12. On the Partition of the Mean Kinetic Energy of a perfect gas between the rotary and translatory motions of its molecules.—8 min.—H. T. Eddy.
13. Note on the Magnetic Rotation of Polarized Light according to the Electro-magnetic Theory.—10 min.—By H. T. Eddy.

Afternoon Session.

99. Researches on Sonorous Sand in the Peninsular of Sinai. (With lantern views) —By H. Carrington Bolton.

At three o'clock the section will be adjourned ; after that hour the room will be occupied by Section D.)

SECTION C.—CHEMISTRY.

Vice-President—WILLIAM L. DUDLEY, of Nashville, Tenn.

Secretary—EDWARD HART, of Easton, Pa.

*Member of the Council.***HARVEY W. WILEY, of Washington, D.C.***Members of the Sectional Committee***H. H. NICHOLSON, of Lincoln, Neb.****F. W. CLARKE, of Washington, D.C.****IRA REMSEN, of Baltimore, Md.***Member of the Nominating Committee.***A. P. S. STUART, of Lincoln, Neb.***Members of the Sub-committee on Nominations.***H. C. BOLTON, of New York City.****A. B. PRESCOTT, of Ann Arbor, Mich.****W. A. NOYES, of Terre Haute, Ind.****PAPERS TO READ ON THURSDAY.**

33. Dynamical Theory of Albuminoid Ammonia.—50 min.—By Robert B. Warder.
25. Molugrams and Molugram Liters.—2 min.—By Charles E. Munroe.
27. The Explosiveness of the Celluloids.—10 min.—By Charles E. Munroe.
29. The Action of Light on Silver Chloride.—10 min.—By R. Hitchcock.
30. A Method of Mounting Photographic Prints on Paper.—5 min.—By R. Hitchcock.
31. Spectrum Photography.—By R. Hitchcock.
32. The Chemical Composition of the Mica Group.—40 min.—By F. W. Clarke.
101. New Bottle for Hydrofluoric Acid.—5 min.—By Edward Hart.
112. Some Peculiarities of Butter.—20 min.—By H. W. Wiley.
113. Composition of the Seed of *Calacanthus Plaucus*, (Illustrated).—20 min.—H. W. Wiley.

SECTION D.—MECHANICAL SCIENCE AND ENGINEERING.

Vice-President—JAMES E. DENTON, of Hoboken, N.J.

Secretary—W. R. WARNER, of Cleveland, Ohio.

Member of the Council.

CADY STALEY, of Cleveland, Ohio.

Members of the Sectional Committee.

O. CHANUTE, of Kansas City, Mo.

M. E. COOLEY, of Ann Arbor, Mich.

C. H. SMITH, of Austin, Texas.

Member of the Nominating Committee.

J. BURKITT WEBB, of Hoboken, N.J.

Members of the Sub-committee on Nominations.

PAPERS TO BE READ ON THURSDAY.

97. Results of Recent Experiments to Determine the Resistance of Air to Inclined Planes in Motion, with applications to the problems of Soaring Pigeons.—20 min —By O Chanute.

34. Experimental Comparison of the Performance of Steam Injectors vs. a Duplex Steam Pump.—35 min —By E. B. Perry.

On the Preservation of Timber.—15 min.—By O. Chanute.

AFTERNOON SESSION.

Thursday, Aug. 29 To be held at 3 p.m., in room assigned to Section B.

On the Relative Economy of Modern Air Compressors. Illustrations by Lantern.—40 min.—By J. E. Denton.

SECTION E.—GEOLOGY AND GEOGRAPHY.

Vice-President—CHARLES A. WHITE, of Washington.

Secretary—JOHN C. BRANNER, of Little Rock, Ark.

Member of the Council.

W. H. WINCHELL, of Minneapolis, Minn.

Members of the Sectional Committee.

ALEXANDER WINCHELL, of Ann Arbor, Mich.

H. L. FAIRCHILD, of Rochester, N.Y.

J. C. WHITE, of Morgantown, W. Va.

Member of the Nominating Committee.

G. K. GILBERT, of Washington, D.C.

Members of the Sub-committee on Nominations.

C. D. WALCOTT, of Washington, D.C.

R. T. HILL, of Austin, Texas.

W. J. MCGEE, of Washington, D.C.

No meeting to-day, adjourned until Friday morning, in order to attend the meeting of the American Geological Society at 10:30 to-day in the Theatre of the Normal School.

SECTION F.—BIOLOGY.*Vice-President*—GEORGE L. GOODALE, of Cambridge, Mass.*Secretary*—A. W. BUTLER, of Brookville, Ind.*Members of the Council.*

W. H. DALL, of Washington, D.C.

Members of the Sectional Committee.

A. J. COOK, of Lansing, Mich.

T. J. BURRILL, of Champaign, Ill.

D. H. CAMPBELL, of Bloomington, Ind.

Member of the Nominating Committee.

W. J. BEAL, of Lansing, Mich.

Members of the Sub committee on Nominations.

L. O. HOWARD, of Washington, D. C.

D. F. DAY, of Buffalo, N. Y.

C. E. BESSEY, of Lincoln, Neb.

PAPERS TO BE READ ON THURSDAY.

48. On the position of the nectar glands in Echinops.—5 min.—By Thomas Meehan.
49. On the Epigynous gland in Diervilla and the genesis of Lonicera and Diervilla.—10 min.—By Thomas Meehan.
53. On the conditions of molluscan life in the deep sea.—30 min.—By W. H. Dall.
54. Some peculiarities of the antennal structure in the Deltoids.—10 min.—By John B. Smith.
56. History and migration of the American Crow in Nebraska.—10 min.—By W. Edgar Taylor.

58. Some physiological traits of the solid stemmed grasses and especially of Indian Corn (maize).—30 min.—By F. L. Stewart.
59. On the genus *Eleocharis* in America.—10 min.—By N. L. Britton.
60. On the tropical distribution of certain sedges.—15 min.—By N. L. Britton.
65. Alimentary apparatus of the Honey Bee.—13 min.—By A. J. Cook.
111. A suggestion concerning scientific work.—15 min.—By Wm. A. Dudley.
114. A newly imported Elu insect.—15 min.—By L. O. Howard.
63. Notes on seedlings of *Elymus virginicus*.—5 min.—By W. J. Beal.
64. Notes on Bird's Eye Maple.—15 min.—By W. J. Beal.
50. On the assumption of floral characters by axial growths in *Andromeda Catesbaei*.—5 min.—By Thomas Meehan.
51. On the significance of dioecism as illustrated by *Pycnanthemum*.—10 min.—By Thomas Meehan.
52. On the higher division of the Pelecypoda.—40 min.—By W. H. Dall.
61. On the flora of New Jersey.—20 min.—By N. L. Britton.

PROGRAMME OF THE ENTOMOLOGICAL CLUB FOR THURSDAY, AUGUST 29TH, 9 A M

Note on the Collony maple-scale parasites.—I. O. Howard.

Remarks on the characters of the gems *Agastes*.—Clarence M. Weed, I. B. Smith.

Notes on breeding butterflies.—W. H. Edwards.

A new furniture enemy.—A. J. Cook.

A note on some Alpine butterflies.—John Macoun.

SECTION H.—ANTHROPOLOGY.

Vice-President—GARRICK MALLERY, of Washington.

Secretary—W. M. BEAUCHAMP, of Baldwinsville, N. Y.

Member of the Council.

J. O. DORSEY, of Washington, D.C.

Members of the Sectional Committee.

H. W. HENSHAW, of Washington, D.C.

C. C. ABBOTT, of Trenton, N. J.

Joseph JASTROW, of Madison, Wis.

Member of the Nominating Committee.

Wm. H. HALL, of Albany, N. Y.

Members of the Sub-committee on Nominations.

A. F. CHAMBERLAIN, of Toronto.

L. C. WURTELE, of Acton Vale, Quebec.

G. P. THRUSTON, of Nashville, Tenn.

PAPERS TO BE READ ON THURSDAY.

- 67. Notes on Aboriginal Fire Making.—10 min.—By Walter Hough.
- 69. Shinto, the Religion of the Japanese.—30 min.—By Romyn Hitchcock.
- 88. Siouan terms for “Mysterious” and “Serpent.”—5 min.—By J. Owen Dorsey.
- 89. Gens and Sub-gens as expressed in four Siouan languages.—5 min.—By J. Owen Dorsey.
- 80. Some Principles of Evidence relating to the Antiquity of Man.—25 min.—By W. J. McGee.
- 81. On the Evolution of Ornament: the American lesson.—25 min.—By W. H. Holmes.
- 71. Aboriginal Mounds of North Dakota.—30 min.—By Henry Montgomery.
- 73. The Iroquois White Dog Feast.—23 min.—By W. M. Beauchamp.
- 85. The Mission and Mission Indians of California.—40 min.—By Henry W. Henshaw.

SECTION I.—ECONOMIC SCIENCE AND STATISTICS.*Vice-President*—CHARLES S. HILL, of Washington.*Secretary*—J. R. DODGE, of Washington.*Member of Council.*

Joseph CUMMINGS, Evanston, Ill.

Members of the Sectional Committee.

W. O. ATWATER, Middletown, Conn.

W. R. LAZENBY, Columbus, Ohio.

Lester F. WARD, Washington, D.C.

Member of the Nominating Committee.

Henry FARQUER, Washington, D.C.

Members of the Sub-committee on Nomination.

R. E. FERNOW, Washington, D.C.

Gustav LINDENTHALL.

Geo. ILES, Toronto.

PAPERS TO BE READ ON THURSDAY.

96. The Fall in the Rate of Interest.—15 min.—By Geo. Iles.
95. What shall we do about Silver.—40 min.—S. Dana Horton.
119. Economic Notes regarding Luxury.—40 min.—A. G. Warner.
147. Development of Trade Channels as an Economic.—45 min.—By H. C. Taylor.
148. Food moulds the Race.—15 min.—Mrs. Nellie S. Kedsie.

*Friday, August 30.***Morning.**

Meeting of the Council at 9 o'clock.

General Session from 10 to 10:15 o'clock.

Meeting of the Sections at 10:15 o'clock.

Afternoon.

Meeting of the Sections from 2 to 5 o'clock.

From 5 to 7 o'clock Mrs. W. H. Beatty, Queen's Park, will receive the Members of the Association.

At 8 o'clock, in the Pavilion, Horticultural Gardens, Mr. G. K. Gilbert, of the United States Geological Survey, will deliver a lecture on the Geological History of Niagara River. This lecture is complimentary to the citizens of Toronto.

Saturday, August 31.

(No Sessions to-day.)

There will be two excursions given by the Local Committee to the members of the Association, one to Niagara Falls, the other to Muskoka. Particulars will be given in Friday's programme. Members intending to go on either excursion must register before Friday at noon.

*Monday, September 2.***Morning.**

Meeting of the Council at 9 o'clock.

(The Special Committees must present their reports to the Council not later than this morning, and the Council will advise the discharge of all Committees not reporting).

General Session from 10 to 10:15 o'clock.

Meeting of the Sections at 10:15 o'clock.

Afternoon.

Meeting of the Sections at 2 o'clock.

Evening.

At 8 o'clock in the Pavilion, Horticultural Gardens, Dr. H. Carrington Bolton, of New York, will deliver a lecture entitled, "Four Weeks in the Desert of Mount Sinai," illustrated by projections of original photographs. This lecture is complimentary to the citizens of Toronto.

Meeting of the Nominating Committee at The Queen's, at 10 o'clock, to nominate officers for next year, and to suggest time and place for the next meeting of the Association.

*Tuesday, September 3.***Morning.**

Meeting of the Council at 9 o'clock.

GENERAL SESSION at 10 o'clock.

Election of Officers and Agreement on time and place of Meeting for 1890.

General business.

Meeting of the Sections after the adjournment of the General Session.

Afternoon.

Meeting of the Sections at 2 o'clock.

Final adjournment of the Sections.

Garden party in Government House grounds, from 5 to 7 o'clock, tendered by the City Council and Citizens.

Evening.

GENERAL SESSION in Association Hall, Yonge Street, at 8 o'clock.

Concluding exercises and adjournment of the Association.

After the adjournment of the meeting there will be several excursions, particulars of which will be given in a future programme. These excursions close the Thirty-eighth Meeting on September 10th.

MEMBERS ELECTED.

August 27, 1889.

1. Henry C. Appleton, Publisher, 1 Bond St., New York. **E I**
2. Ad. F. Bandelier, Santa Fe, N. M. **H**
3. William D. Boardman, 38 Kenilworth St., Roxbury, Mass. **E**
4. Prof. Theo. Brantly, College of Montana, Deer Lodge, Mont. T. **H I**
5. Prof. Wm. T. Brooks, Mass. Agric. College, Amherst, Mass. **C F**
6. Prof. Geo ge Bryce, LL.D., Manitoba College, Winnipeg, Manitoba. **H**
7. Capt. Thos. L. Casey, U. S. Engineer, Army Building, New York, N.Y. **F**
8. Alexander F. Chamberlain, 34 Arthur St., Toronto, Ont. **H**
9. Royal Tyler Church, Turin, Lewis Co., N.Y. **D F**
10. William A. Croft, U. S. Geological Survey, Washington. **H I**
11. Susan J. Cunningham, Prof of Mathematics and Astronomy, Swarthmore College, Swarthmore, Pa. **A**
12. John Daniel, Instructor in Physics, Vanderbilt Univ., Nashville, Tenn. **B**
13. John M. Davison, 60 Oxford St., Rochester, N.Y. **C**
14. Luther M. Donaldson, care National Fertilizer Co., Nashville, Tenn. **C**
15. Fred. James Dorand, Chester, Vt. **A I**
16. W. A. Douglass, B.A., 220 Wellesley St., Toronto, Ont. **I**
17. Charles Redway Dryer, Assistant Indiana State Geological Survey Fort Wayne, Ind. **E**
18. Frank E Emery, Geneva, Ontario Co., N.Y. **F**
19. Howard V Frost, Prof. of Chemistry in the Brooklyn Polytechnic Institute, Arlington, Mass. **C**
20. Edwin Brant Frost, Inst. in Astronomy and Physics, Dartmouth Col., Hanover, N. H.
21. Rev. Otis Allan Glazebrook, D.D., Elizabeth, N.J.
22. G. K. Greene, New Albany, Ind. **E F**
23. Thos. Gray, Prof. Dynamic, Engineering, Rose Polytechnic Inst., Terre Haute, Ind.
24. James Cleland Hamilton, M.A., LL.B., Toronto, Ont.
25. Rev. Gottlieb C. H. Hasskarl, Syracuse, N.Y.
26. John Beazley Hastings, Mining Engineer, Ketchum Allatunas Co., Idaho. **E**

27. John Blackstock Hawley, Engineer of St. Paul Water-Works, St. Paul, Minn. **B**
28. Walter J. Hoffman, M.D., Bureau of Ethnology, Washington, D.C. **H**
29. Lewis E. Hood, E. Somerville, Mass. **F**
30. Thomas Hopkins, Assistant Geological Survey of Arkansas, Little Rock, Ark. **E**
31. Walter Hough, Asst. Department of Ethnology, U. S. National Museum, Washington, D.C. **H**
32. James T. Hoyt, Temple Court, Beckman St., New York. **A H**
33. Andrew F. Hunter, Barrie Ont. **B H**
34. Dr. John Amory Jeffries, 91 Newbury St., Boston, Mass. **F**
35. Thos. Moore Jackson, C.E., Prof. Civil Engineering, W. Va. University, Morgantown, W. Va.
36. J. Floyd King, New York Hotel, New York, N.Y. **D**
37. Otto Julius Klotz, Field Astronomy, Dominion Governm't, Preston, Ont.
38. William Roscoe Livermore, Maj. of Eng., U. S. A., Newport, R.I. **C**
39. Alan Macdougall, F. R. S., Edin., Toronto, Ont. **D H**
40. Jos. E. McDougall, Maritime Court, 121 Carleton St., Toronto, Ont.
41. Charles E. McGowan, M.D., New London, Conn. **E**
42. Rev. John McLean, M.A., Ph.D., Macleod, Alberta, Can.
43. Alexander Chas. McKay, Mathematical Master, Upper Canada College, Toronto.
44. Artemas Martin, Librarian and Custodian of Archives, Coast Survey Office, Washington, D.C. **A**
45. Charles C. Mellon, Vice-Pres. Iron City Microscopical Society, Pittsburgh, Pa. **F**
46. Wm. Hamilton Messitt, 49 St. George street, Toronto. **H I**
47. Cosmos Mindeleff, Bureau of Ethnology, Washington, D.C. **H**
48. Victor Mindeleff, Bureau of Ethnology, Washington, D.C. **H**
49. James Mooney, Bureau of Ethnology, Washington, D.C. **H**
50. Frank Newton Notestein, Prof. of Mathematics and Astronomy, The College of Montana, Deer Lodge, M.T. **A F**
51. George D. Olds, Prof. of Mathematics, Univ. of Rochester, Rochester, N.Y. **A**
52. Frank Owen Payne, Teacher of Science, Appleton, Minn. **F**
53. Dr. R. A. F. Penrose, jr., State Geological Survey, Little Rock, Ark. **E**
54. Ernest B. Perry, Ann Arbor, Mich. **D**
55. George H. Peters, Hartford, Conn. **A B**

56. Eben Putnam, Boston, Mass. **HI**
57. James Cochrane Quinn, Prof. of Mental and Moral Philosophy,
National Univ., Chicago, Helena, Montana. **EFHI**
58. Taylor Reed, Princeton, N.J. **A**
59. A. H. Russell, Captain of Ordnance, U.S.A., Providence, R.I. **D**
60. Harris J. Ryan, Asst. Prof. of Electrical Engineering, Cornell
Univ., Ithaca, N.Y. **B**
61. George S. Ryerson, M.D., 60 College Ave., Toronto, Ont. **F**
62. Wm. H. Seaman, Prof. Analytical Chemistry, School of Mines,
Univ. of Missouri, Rolla, Mo.
63. G. N. Saegnuller, Washington, D.C. **AB**
64. John R. Scupham, C. & M. Engineer, Oakland, Cal. **E**
65. Dilman B. Shantz, Berlin, Ont. **I**
66. Porter W. Shimer, E.M., Easton, Pa. **C**
67. Frank T. Shutt, M.A., Chemist to the Dominion Experimental
Farms, Ottawa, Ont. **C**
68. De Cost Smith, Skaneateles, N.Y. **H**
69. Joseph B. Stearns, Camden, Maine. **B**
70. Francis L. Stewart, Murraysville, Pa. **CF**
71. Henry Newlin Stokes, Ph. D., Chemical Laboratory, U.S. Geo-
logical Survey, Washington, D.C. **CE**
72. Charles Stuart Street, 38 Kenilworth St., Roxbury, Mass. **EC**
73. Charles B. Thwing, Instructor in Physics, North-Western Univ.,
Evanston, Ill. **B**
74. Gerritt E. H. Weaver, Instructor in Swarthmore College, Swarth-
more, Pa. **F**
75. Miss Nellie B. West, 56 W. 55th St., New York, N.Y. **E**
76. Prof. T. R. White, 353 W. 57th St., New York, N.Y. **HA**
77. Prof. W. P. Wilson, 640 North 32nd St., Philadelphia, Pa. **F**
78. S. Grant Wright, Perrysville, Ind. **F**
79. Harrison Garman, Entomologist and Botanist, State Exper. Station,
Lexington, Ky. **F**
80. Prof. John W. Hartigan, W. Va. University, Morgantown, W.
Va. **F**
81. Chas. W. Hastings, Kansas City, Mo. **B**
82. Wm. Houston, Govt Library, Toronto, Ont. **I**
83. Walter Hough, Nat. Museum, Washington, D.C. **H**
84. James Gibson Hume, Univ. College, Toronto. **I**
85. Herbert G. Ogden, U.S. Coast and Geodetic Survey, Washington,
D.C. **AB**
86. Frank Fitz Payne, Meteorological Office, Toronto. **B**
87. James H. Pearce, Toronto, Ont. **F**
88. John Edward White, Toronto, Ont. **F**

89. James G. Wilton, University College, Toronto, Ont. **B**
90. Prof. R. Ramsay Wright, Toronto, Ont. **F**
91. Prof. Chs. W. Hargitt, Oxford, Ohio.
92. John H. Means, Geological Survey, Little Rock, Ark. **E**
93. William Kennedy, Geological Survey, Little Rock, Ark. **E H**
94. Leon Stacy Griswold, Geol. Survey, Little Rock, Ark. **E**
95. Thos. Hopkins, Geol. Survey, Little Rock, Ark. **E**
96. Dr. Andrew C. Lawson, Ottawa, Canada. **E**
97. John Perrin, Mount Royal Park, Montreal. **B**
98. F. W. Kuhne, Fort Wayne, Ind.
99. A. Isabel Mulford, Orange, N.J. **F**
100. John Galbraith, Prof. Civil Engineering, Toronto. **A**
101. Archibald Hope Young, Upper Canada College, Toronto. **H**
102. Henry H. Wing, Cornell Univ. Expt. Station, Ithaca, N. Y.
103. Gales P. Thruston, Nashville, Tenn. **H**
104. Clarence M. Weed, Ohio Expt. Station, Columbus, O. **F**
105. William Macdonald, Toronto, Ont.
106. Thomas Shortiss, Toronto, Ont. **D E**
107. Peter Bryce, Sec'y Board of Health, Toronto, Ont. **F H**
108. Archibald B. Macallum, University College, Toronto, Canada.
109. W. Reynolds Singleton, Washington. **H**
110. Dr. Thomas J. W. Burgess, Hamilton, Ont. **F**
111. Asaph Hall, Jr., U. S. Naval Observatory, Washington. **A**

Wednesday, August 28.

112. Cortez Fessenden, Wapanee, Ont.
113. William Wallace Campbell, Instructor in Astronomy, University of Michigan, Ann Arbor, Mich. **A**
114. Alexander Ziwet, Ann Arbor, Mich. **A**
115. W. A. Burmace, Winnipeg.
116. David Reid Keys, University College, Toronto. **H**
117. Prof. Thomas H. McBride, State Univ. of Iowa, Iowa City. **F**
118. Dr. Alfred R. C. Selwyn, Director of Geological Survey of Canada, Ottawa. **E**
119. Chase Palmer, Prof. of Chemistry, Wabash College, Crawfordsville, Ind. **C**
120. Prof. Samuel T. Maynard, Prof. Botany, Massachusetts Agri. Coll., Amherst, Mass. **F**
121. Curtis C. Howard, Prof. of Chemistry, Starling Medical College, Columbus, Ohio. **C**
122. Eugene H. Roberts, University of Mississippi, Oxford, Miss.
123. Allen D. Risteen, Hartford, Connecticut. **A B D**

124. Edward B. Shuttleworth, Dean of Ontario College of Pharmacy. **C**
125. William Knox, Architect, 13 Victoria St., Toronto, Ont.
126. Simeon H. Janes, M.A., Toronto, Ont. **A E**
127. W. R. Head, Hyde Park, Chicago, Ill.
128. G. C. Creelman, Acting Prof. of Biology, Agricultural College, Mississippi.
129. I. E. Graham, M.D., Toronto, Ont. **F**
130. W. S. Blackstock, 20 Homewood Ave., Toronto, Ont. **H**
131. Chas. Gibson, D.Sc., Chicago, Ill. **C**
132. Wm. H. Wilson, M.D., Chicago, Ill. **F H**
133. Orange Merwin, Bridgeport, Conn. **E**
134. Adam Capen Gill, Northampton, Mass. **E**
135. George Bruce Halsted, Prof. of Mathematics, University of Texas, Austin, Texas. **A**
136. Marcus P. Norton, 50 Broadway, New York.
137. Alexander D. Anderson, Washington, D.C.
138. John Uri Lloyd, Pharmaceutical Chemist, Court and Plum Streets, Cincinnati, Ohio. **C F**
139. Clinton Owen Bates, Prof. Chemistry in Coe College, Cedar Rapids, Iowa.
140. Mary Townsend Sharpless Schaffer, 1309 Arch St., Philadelphia, Pa. **F E**
141. John H. Talbutt, Lexington, Kentucky.
142. James F. W. Ross, M.D., C.M., Sherbourne and Wellesley Sts. Toronto, Ont.
143. Robert Allen Thompson, Mathematical Master, Hamilton College Institute, Hamilton, Ont. **A**
144. T. D. Ledyard, 4 Ontario Chambers, Toronto, Ont.
145. W. T. Jennings, Civil Engineer, Toronto, Ont. **D**
146. Byron Edmund Walker, Toronto, Ont. **E**
147. Norman B. Wood, Jr., 67½ University St., Cleveland, Ohio.
148. William H. Jenks, Brookville, Pa. **D**
149. Andrew Smith, F. R. C. V. S., Toronto, Ont. **F**
150. Arthur B. Willmott, Antioch College, Yellow Springs, Ohio.
151. Amos R. Wells, Antioch College, Yellow Springs, Ohio.
152. A. M. Roseburgh, M.D., Church St., Toronto Ont.
153. George Burchutt Abney, Toronto, Ont. **D**
154. W. E. Boustead, Toronto, Ont. **B**
155. J. W. Whitney, Chief Clerk U. S. Bureau of Statistics, Washington, D.C. **I**
156. Goldsmith B. West, Birmingham, Alabama. **E**

LIST OF MEMBERS AND ASSOCIATES

IN ATTENDANCE AT THE MEETING.

[Additional arrivals will be given in the Programme for each day.]

Tuesday, August 27th.

Number of Register and Badge.	City Address.
1. T. C. Mendenhall, Washington, D.C.	Queen's Hotel.
2. F. W. Putnam, Cambridge, Mass.	Queen's Hotel.
3. Charles C. Abbott, Trenton, N.J.	Queen's Hotel.
4. James Loudon, Toronto.	83 St. George St.
5. Charles Carpmal, Toronto	Dale Ave.
6. James D. Dana, New Haven, Conn.	Queen's Hotel.
7. Sir Daniel Wilson, Toronto.	46 St. George St.
8. C. A. White, Washington, D.C.	Queen's Hotel.
9. Henrietta L. T. Wolcott, Dedham, Mass.	467 Spadina Ave.
10. J. J. Stevenson, Univ. of City of New York	Queen's Hotel.
11. Samuel Calvin, Iowa City	Metropole Hotel.
12. W. M. Beauchamp, Baldwinsville, N.Y.	Metropole Hotel.
13. N H Winchell, Minneapolis.	
14. Charles B. Gibson, Chicago	576 Church St.
15. H. D. Garrison, Chicago	Walker House.
16. Herman L. Fairchild, Rochester, N.Y.	29 Grange Ave.
17. Mrs. H. L. Fairchild, Rochester, N.Y.	29 Grange Ave.
18. Daniel S. Martin, New York.	29 Grange Ave.
19. A. E. Douglass, New York.	Rossin House.
20. Edward Hart, Easton, Pa.	Rossin House.
21. Mrs. Edward Hart, Easton, Pa.	Rossin House.
22. H. W. Wiley, Washington, D.C.	Rossin House.
23. Mrs. Nellie G. Kedzie, Manhattan, Kan.	Queen's Hotel.
24. E. Lewis Sturtevant, South Framingham, Mass.	Queen's Hotel.
25. J. H. Burrill, Champaign, Ill.	79 Slater St.
26. Charles H. Smith, Austin, Tex.	333 Church St.
27. William Frear, State College, Pa.	Queen's Hotel.

28. Fred. V. Coville, Washington, D.C. Queen's Hotel.
29. Horatio N. Chute, Ann Arbor, Mich. 44 Hayden St.
30. George L. English, Philadelphia, Pa. 580 Church St.
31. M. A. Scovell, Lexington, Ky. Rossin House.
32. Edward Goldsmith, Philadelphia, Pa. Club.
33. A. W. Vogdes, Fort Hamilton, N.Y. Har. Queen's Hotel.
34. Mrs. A. W. Vogdes, Fort Hamilton, N.Y. Har. Queen's Hotel.
35. A. J. Cook, Agricultural College, Mich. 31 College Ave.
36. Benjamin W. Snow, Ithaca, N.Y.
37. A. S. Tiffany, Davenport, Iowa International Hotel.
38. John A. Myers, Morgantown, W. Va. Rossin House.
39. H. Carrington Bolton, New York Queen's Hotel.
40. I. C. White, Morgantown, W. Va. Queen's Hotel.
41. B. E. Fernow, Washington, D.C. Rossin House.
42. John C. Branner, Little Rock, Ark. Queen's Hotel.
43. N. C. Husted, Tarrytown-on-Hudson, N.Y. Walker House.
44. William H. Dall, Washington, D.C. Queen's Hotel.
45. H. H. Nicholson, Lincoln, Neb. Queen's Hotel.
46. David F. Day, Buffalo, N.Y. Queen's Hotel.
47. Mrs. David F. Day, Buffalo, N.Y. Queen's Hotel.
48. Robert T. Hill, Austin, Tex. Queen's Hotel.
49. Mrs. Robert T. Hill, Austin, Tex. Queen's Hotel.
50. Elroy M. Avery, Cleveland, O. Queen's Hotel.
51. William L. Dudley, Nashville, Tenn. Queen's Hotel.
52. D. W. Prentiss, Washington. Queen's Hotel.
53. C. Leo. Mees, Terre Haute, Ind. Queen's Hotel.
54. Miss Ella Eaton, Northampton, Mass.
55. G. Frederick Wright, Oberlin, Ohio. 86 Charles St.
56. P. N. Schuyler, Bellevue, Ohio. Walker House.
57. James Lewis Howe, Louisville, Kentucky 25 Murray St.
58. Miss Katie M. Dudek, New York 29 Grange Ave.
59. Jeannette B. Greene, New York Lake View House.
60. J. C. Arthur, La Fayette, Ind.
61. R. C. Kedzie, Lansing, Mich. Queen's Hotel.
62. Samuel W. Very, Annapolis, Md. Keachie's Hotel.
63. G. N. Merryweather, Cincinnati, O. Walker House.
64. G. C. Broadhead, Columbia, Mo. Walker House.
65.
66. L. O. Howard, Washington, D.C.
67. Mrs. Esther Herrman, New York Queen's Hotel.
68. Edgar L. Larkin, Galesburg, Ill.
69. Mrs. J. R. Dodge, Washington, D.C. Queen's Hotel.
70. J. Richards Dodge, Washington, D.C. Queen's Hotel.

71. John B. Tweedale, St. Thomas, Ont.....
72. William Saunders, Ottawa, Ont.....Rossin House.
73. Walter F. Ferrier, New Brunswick, N.J.....174 Carlton St.
74. William H. Seaman, Washington, D.C.....40 Ann St.
75. Thomas Taylor, Washington, D.C.....11 Linden St.
76. D. H. Oppenheim, New York,.....Queen's Hotel.
77. Mrs. S. Oppenheim, New YorkQueen's Hotel.
78. W. J. Beal, Agricultural College, Mich.....31 Avenue St.
79. Mrs. W. J. Beal, Agricultural College, Mich...31 Avenue St.
80. Timothy F. Allen, New York.....Queen's Hotel.
81. P. R. Hoy, Racine, Wis.....24 Ann St.
82. W. H. Ellis, Toronto, Ont.....University College.
83. G. W. Lehmann, Baltimore, Md.....Queen's Hotel.
84. Mrs. G. W. Lehmann, Baltimore, Md.....Queen's Hotel.
85. William R. Lazenby, Columbus, O.....Queen's Hotel.
86. A. P. S. Stewart, Lincoln, Neb.....24 Ann St.
87. Mrs. A. P. S. Stewart, Lincoln, Neb.....24 Ann St.
88. George C. Caldwell, Ithaca, N.Y....."The Grange."
89. R. T. Colburn, Elizabeth, N.Y.....
90. Mrs. R. T. Colburn, Elizabeth, N.Y.....
91. J. H. Kedzie, Evanston, Ill.....Queen's Hotel.
92. Mrs. J. H. Kedzie, Evanston, Ill.....Queen's Hotel.
93. O. Chanute, Chicago, Ill.....Queen's Hotel.
94. W. J. McGee, Washington, D.C....Rossin House
95. Alexander Winchell, Ann Arbor, Mich.....Walker House.
96. J. F. Cowell, Buffalo, N.Y.....Walker House.
97. Charles E. Bessey, Lincoln, Neb.....31 College St.
98. F. Lamson Scribner, Knoxville, Tenn.....30 King St.
99. Eugene E. Fish, Buffalo, N.Y.....Walker House.
100. Mary A. Booth, Longmeadow, Mass.....
101. W. Le Conte Stevens, Brooklyn, N.Y.....Queen's Hotel.
102. Archibald Blue, Toronto, Ont.....11 Linden St.
103. E. W. Hyde, Cincinnati, O.....Palmer House.
104. Angelo Heilprin, Philadelphia, Pa.....Rossin House.
105. Thomas Meehan, Philadelphia, Pa.....Queen's Hotel.
106. A. L. Arey, Rochester, N.Y.....10 North St.
107. James T. B. Ives, Toronto.....429 Spadina Ave.
108. Mrs. A. L. Arey, Rochester, N.Y.....10 North St.
109. William Jay Youmans, New York.....Arlington Hotel.
110. Mrs. Celia G. Youmans, Mount Vernon, N.Y., Arlington Hotel.
111. William B. Pedrick, Lawrence, Mass.....31 Avenue St.
112. Eleanor B. Pedrick, Lawrence, Mass.....31 Avenue St.
113. Martha M. Barker, Lowell, Mass.....31 Avenue St.

114. W. O Atwater, Washington, Conn. Queen's Hotel.
115. Amos W. Butler, Brookville, Ind. Walker House.
116. Mrs. A. W. Butler, Brookville, Ind. Walker House.
117. Henry S Carhart, Ann Arbor, Mich. Walker House.
118. John B. Smith, New Brunswick, N.J. Keachie's Hotel.
119. W. H. Walmsley, Philadelphia, Pa. Rossin House.
120. James N. Baxter, Brooklyn, N.Y. Rossin House.
121. Mary B. Moody, New Haven, Conn.
122. Arthur E. B. Moody New Haven, Conn.
123. Bushrod W. James, Philadelphia, Pa. Queen's Hotel
124. John Collett, Indianapolis, Ind. Rossin House
125. J E. Denton, Hoboken, N.J. 383 Church St.
126. Miss H. A. Kittredge, North Andover, Mass. . Queen's Hotel.
127. Miss C. A. Watson, Salem, Mass. Queen's Hotel.
128. Thomas D. Robertson, Rockford, Ill. Queen's Hotel.
129. Mrs. Thomas D. Robertson, Rockford Ill. Queen's Hotel.
130. C. A. Hirschfelder, Toronto.
131. George Lincoln Goodale, Cambridge, Mass. Queen's Hotel.
132. George F. Barker, Philadelphia, Pa. Queen's Hotel.
133. Mrs George F. Barker, Philadelphia, Pa. Queen's Hotel.
134. Miss Clara T. Barker, Philadelphia, Pa. Queen's Hotel.
135. James Hall, Albany, N.Y. Queen's Hotel.
136.
137. Charles S. Hill, Washington, D.C. Queen's Hotel.

Wednesday, August 28th.

138. Chas H. Chandler, Ripon, Wis. Revere House.
139. L. W. Bailey, Frederickton, N.B. Walker House.
140. Francis Laird Stewart, Murraysville, Pa. Walker House.
141. Geo. O. Comstock, Madison, Wis. Queen's Hotel.
142. Alan Macdougall, Toronto, Ont. 30 Adelaide St. E.
143. Charles M. Knight, Akron, O. Walker House.
144. C Canby Balderston, Westtown, Pa. Walker House.
145. Frank E. Emery, Geneva, N.Y. 207 College St.
146. Worcester Woodruff Beman, Ann Arbor, Mich. 29 Grange Ave.
147. Robert B. Warder, Washington, D.C. 15 Division St.
148. Byron D. Halsted, New Brunswick, N.J. 31 College Ave.
149. Joseph P. James, Washington, D.C. Walker House.
150. Mrs Joseph P. James, Washington, D.C. Walker House.
151. Rev. Corlis B. Gardiner, Rochester, N.Y. 81 Avenue St.
152. Edward P. Thompson, Beaver Falls, Pa.

153. H. T. Eddy, Cincinnati, O.....Palmer House.
154. Charles B. Thwing, Evanston, Ill.....246 Jarvis St.
155. Wm. Dawson, Montreal, Que.....46 St. George St.
156. Wm. Harkness, Washington, D.C.....Rossin House.
157. Ira Remsen, Baltimore, Md.....Rossin House.
158. W. A. Noyes, Terre Haute, Ind.....239 Beverley St.
159. Chas. D. Walcott, Washington, D.C.....429 Church St.
160. H. W. Henshaw, Washington, D.C.....Queen's Hotel.
161. Douglas H. Campbell, Detroit, Mich.....Queen's Hotel.
162. E. H. Preswick, Ithaca, N.Y.....Albion Hotel.
163. Mrs. F. W. Putnam, Cambridge, Mass.....Queen's Hotel.
164. Miss Ethel A. F. Putnam, Cambridge, Mass.....Queen's Hotel.
165. Henry S. Williams, Ithaca, N.Y.....429 Church St.
166. Rev. Chas. J. S. Bethune, Port Hope, Ont184 College Ave.
167. Frank Leverett, Madison, WisAlbion Hotel.
168. F. W. Clarke, Washington, D.C.....Queen's Hotel.
169. Louis C. Wurtele, Actondale, Que.....96 Bellevue Ave.
170. Mrs. L. C. Wurtele, Actondale, Que.....96 Bellevue Ave.
171. Edwin E. Howell, Rochester, N.Y.....29 Grange Ave.
172. Mrs. Edwin E. Howell, Rochester, N.Y.29 Grange Ave.
173. Alexander Charles McKay, Toronto.....
174. Andrew C. Lawson, Ottawa.....16 Washington Ave.
175. H. A. Newton, New Haven, Conn.....Queen's Hotel.
176. Mrs. H. L. Smith, New York.....126 Baldwin St.
177. Alexander F. Chamberlain, Toronto.....26 Arthur St.
178. Andrew F. Hunter, Barrie, Ont.....Lucas' House.
179. R. S. Woodward, Washington, D.C.....Rossin House.
180. Mrs. R. S. Woodward, Washington, D.C.....Rossin House.
181. J. Burkitt Webb, Hoboken, N.J.....283 Church St.
182. Geo. H. Williams, Baltimore, Md.....Queen's Hotel.
183. James H. Pearce, Toronto, Ont.....226 Beverley St.
184. Wm S Rogers, Waterville, Me.....Queen's Hotel.
185. A. E. Dolbear, College Hill, Mass.....
186. S. J. Coffin, Easton, Pa.....Elliot House.
187. Miss E. Angle, Lewisbury, Pa.....Elliot House.
188. Mrs. W. D. Boardman, Roxbury, Mass32 John St.
189. J. H. Chapin, Meriden, Conn.....Queen's Hotel.
190. Stephen S. Haight, New York.....94 McCaul St.
191. Mrs. Stephen S. Haight, New York.....94 McCaul St.
192. Miss Mary Evelyn Haight, New York.....94 McCaul St.
193. Samuel Carleton Haight, New York.....94 McCaul St.
194. J. R. Eastman, Washington, D.C.....Queen's Hotel.
195. Mrs. J. R. Eastman, Washington, D.C.....Queen's Hotel.

196.	Ernest Merritt, Ithaca, N.Y.	239 Beverley St.
197.	A. R. Crandall, Lexington, Ky.	Rossin
198.	Horace C. Hovey, Bridgeport, Conn.	Keachie's Hotel.
199.	Homer T. Fuller, Worcester, Mass.	Rossin
200.	Mrs. H. T. Fuller, Worcester, Mass.	Rossin
201.	Charles S. Howe, Cleveland, Ohio.	Rossin House.
202.	Walter Hough, Washington, D.C.	25 Murray St.
203.	John J. Mackenzie, Toronto, Ont.	222 Sherbourne St.
204.	C. H. McLeod, Montreal, Que.	432 Jarvis St.
205.	Miss Nellie B. West, New York	Lakeview Hotel.
206.	W. H. Hollinshead, Nashville Town.	13 St. Patrick St.
207.	Charles W. Hargill, Oxford, Ohio	Walker House.
208.	James Fletcher, Ottawa	178 St. Patrick St.
209.	J. Owen Dorsey, Takoma Park P.O., D.C.	25 Murray St.
210.	Benjamin Lord, New York	Queen's.
211.	Mrs. Benjamin Lord, New York	Queen's.
212.	G. K. Gilbert, Washington, D.C.	Queen's.
213.	Edmund O. Hovey, Waterbury, Conn.	25 Murray St.
214.	George Bryce, Winnipeg, Man.	The Pines, Davenport.
215.	Frank T. Shutt, Ottawa, Ont.	"Rosedale Cottage"
216.	P. H. Bryce, M.D., Toronto	
217.	E. D. Preston, Washington, D.C.	350 King St.
218.	Edward Dummer, Boston, Mass.	383 Church St.
219.	Mrs. Edward Dummer, Boston, Mass.	383 Church St.
220.	Rollin D. Salisbury, Beloit, Wis.	Queen's.
221.	J. Francis Williams, Salem, N.Y.	Queen's.
222.	H. H. Lyman, Montreal, Quebec	Queen's.
223.	George Iles, New York	Elm Avenue.
224.	R. A. F. Penrose, Little Rock Ark.	Queen's.
225.	Wm. H. Hale, Albany, New York	236 Adelaide St.
226.	Harrison Garman, Lexington, Ky.	31 College St.
227.	Romyn Hitchcock, Washington, D.C.	Queen's.
228.	Mrs. Romyn Hitchcock, Washington, D.C.	Queen's.
229.	Mrs. G. K. Baldwin, Detroit, Mich.	Rossin.
230.	Mrs. L. H. Trowbridge, Detroit, Mich.	Rossin.
231.	N. L. Britton, New York	Queen's.
232.	Mrs. N. L. Britton, New York	Queen's.
233.	Miss H. Louisa Britton, New York	Queen's.
234.	Miss Mary A. Knight, New York	Queen's.
235.	Miss Millie Timmerman, New York	Queen's.
236.	M. B. Waite, Washington, D.C.	
237.	B. T. Galloway, Washington, D.C.	Rossin House.
238.	James T. Lusk, Marietta, Ohio	

239. Charles Schaffer, Philadelphia, Pa.....Rossin House.
240. Mrs. Charles Schaffer, Philadelphia, Pa.....Rossin House.
241. John McLean, Moosejaw, N.W.T.....
242. Luther M. Donaldson, Nashville, Tenn.....
243. Edward W. Morley, Cleveland, Ohio.....Queen's Hotel.
244. Albert A. Prescott, Ann Arbor, Mich.....Queen's Hotel.
245. Thomas Joseph Workman Burgess, Hamilton, Ont 56 Henry St.
246. Albert S. Bickmore, New York.....Queen's Hotel.
247. Edward L. Nichols, Ithaca.....
248. Clarence M. Weed, Columbus, Ohio31 College St.
249. J. F. Whiteaves, Ottawa, Ont.....16 Grosvenor St.
250. Marcus Benjamin, New YorkRossin House.
251. C. H. Hitchcock, Hanover, N.H.483 Church St.
252. Miss Maria P. Hitchcock, Hanover, N.H.....383 Church St.
253. A. Isabel Mulford, Orange, N.J.....79 Shuter St.
254. C. A. Waldo, Terre Haute, Ind.....239 Beverley St.
255. Henry H. Wing, Ithaca, N.Y.....Walker House
256. Thomas Gray, Terra Haute, Ind.....239 Beverley St.
257. Mrs E. O. Hovey, Waterbury, Conn.....25 Murray St.
258. Wm. Doer Boardman, Roxbury, Mass.....32 John St.
259. James Mills, Guelph, Ont.....Rossin House.
260. Edgar G. Miller, Baltimore, Md.....Queen's Hotel.
261. Robert Hay, Junction City, Kan.....Palmer House.
262. Frank Fitz Payne, Toronto, Ont.....
263. Charles B. Atwell, Evanston, Ill.....— Ann St.
264. J. M. Rice, Annapolis, Md.....Queen's.
265. Henry James, Toronto, Ont.....204 Spadina Ave.
266. E. N. S. Ringueberg, Lockport, N.Y.....
267. W. R. Warner, Cleveland, Ohio.....Queen's.
268. Jefferson E. Kershner, Lancaster City, Pa.....Queen's.
269. T. H. McBride, Iowa City, Ia.....Palmer.
270. Mrs. T. H. McBride, Iowa City, Ia.....Palmer.
271. Arch. B. Macallum, Toronto.....
272. John Perrin, Montreal, Que.....
273. Cady Staley, Cleveland, O.....Queen's.
274. Archibald Hope Young, Toronto, Ont.....
275. Mrs. W. A. Rogers
276. James Gayford Witton, Toronto, Ont.....118 D'Arcy St.
277. Taylor Reed, Princeton, N. J.....Queen's.
278. Joseph Cummings, Evanston, Ill.....Queen's.
279. Henry Farquhar, Washington, D.C.....
280. Mrs. H. Farquhar, Washington, D.C.....
281. John Lucas, Philadelphia, Pa.....“Ernesleigh.”

282.	Mrs. John Lucas, Philadelphia, Pa.....	"Ernesleigh."
283.	Fred. Hoffmann, New York.....	Queen's.
284.	Albert Lucas, Philadelphia, Pa.....	
285.	Mrs. L. E. Holden Cleveland, O.....	Queen's.
286.	Persifor Frazer, Philadelphia, Pa.....	Queen's Hotel.
287.	H. P. Cushing, Cleveland, O.....	Queen's Hotel.
288.	Joseph J. Walton, Philadelphia, Pa.....	Walker House.
289.	G. W. Hough, Evanston, Ill.....	Queen's Hotel.
290.	Edward S. Morse, Salem, Mass.....	Prof. R. R. Wright's.
291.	G. P. Thruston, Nashville, Tenn.....	Rossin House
292.	James F. Kemp, Ithaca, N.Y.....	429 Church St.
293.	A. V. E. Young, Evanston, Ill.....	Walker House
294.	Leon P. Kinnicott, D.Se. Worcester Poly. Inst.,	Rossin House.
295.	Mrs. Leon. P. Kinnicott, Worcester Poly. Inst.,	Rossin House.
296.	W. H. Merritt.....	40 St. George St.
297.	Garrick Mallery, Washington, D.C.....	Queen's Hotel.
298.	Mrs. Garrick Mallery, Washington, D.C.....	Queen's Hotel.
299.	John Galbraith, Prof. of Engineering.....	62 St. Mary's St.
300.	Thos. M. Jackson, C.E., D.Se., Morgantown, W. Va.,	Queen's Hotel.
301.	Mrs. John C. Bronner, Little Rock, Ark.....	Queen's Hotel.
302.	Albert Lufkin, Newton, Iowa.....	159 Simcoe St.
303.	Mrs. F. Lufkin, Newton, Iowa.....	159 Simcoe St.
304.	Miss L. Lufkin, Newton, Iowa.....	159 Simcoe St.
305.	Miss N. Lufkin, Newton, Iowa.....	159 Simcoe St.
306.	Harris J. Ryan, Ithaca, N.Y.....	239 Beverley St.
307.	Prof. R. B. Fulton, University, Miss.....	Walker House
308.	W. W. Campbell, Ann Arbor, Mich.....	29 Grange Ave.
309.	Dr. G. S. Ryerson, Toronto.....	60 College Ave
310.	Prof. R. R. Wright, Toronto.....	
311.	Alex. Ziwet, Ann Arbor, Mich.....	29 Grange Ave.
312.	S. F. Emmons, Washington, D.C.....	
313.	M. A. Veeder, Lyons N.Y.....	Rossin House.
314.	E. W. Claypole, Akron, Ohio.....	
315.	Katharine B. Claypole, Akron, Oh o.....	
316.	Prof. Geo. D. Olds, Rochester, N.Y.....	29 Grange Ave.
317.	Mrs. G. D. Olds, Rochester, N.Y.....	29 Grange Ave.
318.	Mary Leland, Rochester, N.Y.....	29 Grange Ave.
319.	Mrs. Albert S. Bickmore, New York.....	Queen's Hotel.
320.	Prof. E. H. S. Bailey, Lawrence, Kan.....	Elliott House.
321.	F. P. Leavenworth, Haverford College, Pa....	Albion Hotel.
322.	Mrs. F. P. Leavenworth, Haverford College, Pa.	Albion Hotel.
323.	Miss Esther Leavenworth, Havenford Col, Pa..	Albion Hotel.
324.	Prof. R. H. Ward, Troy, N. Y.....	Palmer House.

325. James T. Hoyt, New York.....The Arlington.
326. Mrs. James T. Hoyt, New York.....The Arlington.
327. W. M. Dudley Ithaca, N.Y.....Rossin House.
328. John W. Langley, Pittsburg, Pa
329. Mrs. J. W. Langley, Pittsburg, Pa
330. Prof. Mortimer E. Cooley, Ann Arbor, Mich.....
331. Mrs. M. E. Cooley, Ann Arbor, Mich
332. F. W. Kuhne, Fort Wayne, Ind.....79 Shuter St.
333. Mrs F. W. Kuhne, Fort Wayne, Ind.....79 Shuter St.

JAMES MURRAY & Co., PRINTERS,
TORONTO.

AMERICAN ASSOCIATION

FOR THE

ADVANCEMENT OF SCIENCE,

Programme for Friday, August 30th

OFFICERS

OF THE

TORONTO MEETING.

PRESIDENT.

T. C. MENDENHALL, of Washington.

VICE-PRESIDENTS.

- A.** *Mathematics and Astronomy*—R. S. WOODWARD, of Washington.
- B.** *Physics*—H. S. CARHART, of Ann Arbor, Mich.
- C.** *Chemistry*—WILLIAM L. DUDLEY, of Nashville, Tenn.
- D.** *Mechanical Science and Engineering*—JAMES E. DENTON, of Hoboken, N.J.
- E.** *Geology and Geography*—CHARLES A. WHITE, of Washington.
- F.** *Biology*—GEORGE L. GOODALE, of Cambridge, Mass.
- H.** *Anthropology*—GARRICK MALLERY, of Washington.
- I.** *Economic Science and Statistics*—CHARLES S. HILL, of Washington.

PERMANENT SECRETARY.

F. W. PUTNAM, of Cambridge, Mass. (Office : Salem, Mass.)

GENERAL SECRETARY.

C. LEO MEES, of Terre Haute, Ind.

SECRETARY OF THE COUNCIL.

H. CARRINGTON BOLTON, of New York.

SECRETARIES OF THE SECTIONS.

- A.** *Mathematics and Astronomy*—G. C. COMSTOCK, of Madison, Wis.
- B.** *Physics*—E. L. NICHOLS, of Ithaca, N. Y.
- C.** *Chemistry*—EDWARD HART, of Easton, Pa.
- D.** *Mechanical Science and Engineering*—W. B. WARNER, of Cleveland, O.
- E.** *Geology and Geography*—JOHN C. BRANNER, of Little Rock, Ark.
- F.** *Biology*—AMOS W. BUTLER, of Brookville, Ind.
- H.** *Anthropology*—W. M. BEAUCHAMP, of Baldwinsville, N. Y.
- I.** *Economic Science and Statistics*—J. R. DODGE, of Washington.

TREASURER.

WILLIAM LILLY, of Mauch Chunk, Pa.

MEMBERS OF THE COUNCIL FOR THE TORONTO MEETING.

Past Presidents—JAMES D. DANA, of New Haven ; JAMES HALL, of Albany ; J. S. NEWBERRY, of New York ; B. A. GOULD, of Cambridge ; T. STERRY HUNT, of Montreal ; JOSEPH LOVERING, of Cambridge ; J. E. HILGARD, of Washington ; SIMON NEWCOMB, of Washington ; O. C. MARSH, of New Haven ; GEORGE F. BARKER, of Philadelphia ; GEORGE J. BRUSH, of New Haven ; J. W. DAWSON, of Montreal ; C. A. YOUNG, of Princeton ; J. P. LESLEY, of Philadelphia ; H. A. NEWTON, of New Haven ; EDWARD S. MORSE, of Salem ; S. P. LANGLEY, of Washington ; J. W. POWELL, of Washington.

Vice-Presidents of the last Meeting—ORMOND STONE, of University of Virginia ; A. A. MICHELSON, of Cleveland ; C. E. MUNROE, of Newport ; C. J. H. WOODBURY, of Boston ; GEORGE H. COOK, of New Brunswick ; C. V. RILEY, of Washington ; CHARLES C. ABBOTT, of Trenton ; C. W. SMILEY, of Washington.

Officers of the Present Meeting—T. C. MENDENHALL, of Washington ; R. S. WOODWARD, of Washington ; H. S. CARHART, of Ann Arbor ; WILLIAM L. DUDLEY, of Nashville ; JAMES E. DENTON, of Hoboken ; CHARLES A. WHITE, of Washington ; GEORGE L. GOODALE, of Cambridge ; GARRICK MALLERY, of Washington ; CHARLES S. HILL, of Washington ; F. W. PUTNAM, of Cambridge ; C. LEO MEES, of Terre Haute ; H. CARRINGTON POLTON, New York ; G. C. COMSTOCK, of Madison ; E. L. NICHOLS, of Ithaca ; EDWARD HART, of Easton ; W. R. WARNER, of Cleveland ; JOHN C. BRANNER, of Little Rock ; AMOS W. EUTLER, of Brookville ; W. M. BEAUCHAMP, of Baldwinsville ; J. R. DODGE, of Washington ; WILLIAM LILLY, of Mauch Chunk.

From the Association at Large—A fellow elected from each section. E. W. HYDE, of Cincinnati (**A**), W. A. ROGERS, of Waterville (**B**), H. W. WILEY, of Washington (**C**), CADY STALEY, of Cleveland (**D**), N. H. WINCHELL, of Minneapolis (**E**), W. H. DALL, of Washington (**F**), J. A. DORSAY, of Washington (**H**).

SUB-COMMITTEES OF THE LOCAL COMMITTEE.

EXECUTIVE COMMITTEE.

Chairman—C. CARPMAEL, M.A.

Treasurer—JAMES BAIN, JR.

Secretary—PROF. LOUDON.

Assistant Secretaries—W. H. FRASER, M.A., H. H. LANGTON, B.A.

Hon. G. W. Allan, James Bain, Prof. Baker, Rev. Provost Body, Dr. Brodie, C. W. Bunting, W. R. Callaway, Mayor E. F. Clarke, Arthur Cox, H. W. Darling, Rev. Dr. Dewart, Ald. E. K. Dodds, H. P. Dwight, Prof. Ellis, Prof. Galbraith, Ald. Gibbs, James Hedley, H. J. Hill, W. S. Lee, A. Marling, Alan Macdougall, J. H. Mason, E. A. Meredith, W. McCulloch, Thomas McGaw, Ald. McMillan, J. H. Pearce, Rev. J. R. Teefy, D. R. Wilkie, Sir Daniel Wilson, Prof. A. H. Wright, Prof. R. R. Wright, E. Wragge.

RECEPTION COMMITTEE.

Chairman—E. KING DODDS.

Secretary—THOS. SANDERSON.

W. H. Beatty, Dr. Bryce, B. Cumberland, Prof. Baker, A. M. Cosby, Dr. Davison, Prof. Ellis, Ald. Gibbs, Dr. Hodgins, John Hoskin, Prof. Loudon, Principal Kirkland, Wm. Macdonald, W. B. McMurrich, Dr. O'Sullivan, Ald. McMillan, J. H. Pearce, Rev. J. R. Teefy, Prof. A. H. Wright, Prof. R. R. Wright, Dr. J. E. White, W. H. Vander Smitten.

COMMITTEE ON HOTELS.

Chairman—THOMAS MCGAW.

Secretary—W. MCCULLOCH.

D. Boyle, H. J. Hill, John Hallam, Robert Jaffray, Bernard Saunders, David Walker, J. Wright.

POST OFFICE, TELEGRAPH AND EXPRESS COMMITTEE.

Chairman—H. P. DWIGHT.

Secretary—G. SWEETNAM, JR.

Arthur Cox, D. B. Dick, A. Blue, O. S. Howland, R. E. Kingsford, H. Neilson, Dr. Rosebrugh, Prof. Shuttleworth, J. D. Irwin.

TRANSPORTATION COMMITTEE.

Chairman—E. WRAGGE.

Secretary—W. R. CALLAWAY.

Hugh Blain, B. Cumberland, P. H. Drayton, H. J. Hill, H. S. Howland, N. Kingsmill, F. Nichols, H. Merritt, Wm. Badenach, P. J. Slatter.

FINANCE COMMITTEE.

Chairman—D. R. WILKIE.

Secretary—JAMES BAIN.

Prof. Baker, W. Barwick, W. R. Brock, R. Burgess, R. W. Elliott, R. Jenkins, W. S. Lee, J. H. Mason, G. R. R. Cockburn, Wm. Badenach, J. H. Pearce.

COMMITTEE ON ROOMS.

Chairman—A. MARLING.

Secretary—A. F. CHAMBERLAIN.

G. Dickson, F. Darling, J. L. Hughes, D. R. Keys, John Squair.

PRINTING COMMITTEE.

Chairman—ALAN MACDOUGALL.

Secretary—G. ADAMSON.

Prof. Ashley, D. Boyle, J. M. Clark, W. Houston, Dr. Pyne, G. M. Rae, G. Kennedy.

PRESS COMMITTEE.

Chairman—JAMES HEDLEY.

Secretary—R. T. LANCEFIELD.

T. B. Browning, C. R. W. Biggar, H. Brock, D. Creighton, John Cameron, E. Farrar, W. F. Maclean, J. R. Robertson, A. S. Irving, W. G. Eakins, C. W. Taylor, Rev. Dr. Dewart.

LADIES' COMMITTEE.

Mrs. G. W. Allan, Mrs. W. T. Aikins, Mrs. Ashley, Mrs. E. Blake, Mrs. J. A. Boyd, Mrs. Body, Mrs. H. Blake, Mrs. A. Boswell, Mrs. Jas. Bain, Mrs. S. C. Bethune, Mrs. R. H. Bethune, Mrs. W. H. Beatty, Mrs. C. W. Bunting, Mrs. Clark, Mrs. Arthur Cox, Mrs. Clarkson, Mrs. A. M. Cosby, Mrs. D. B. Dick, Mrs. P. H. Drayton, Mrs. P. H. Drayton, Mrs. E. K. Dodds, Mrs. W. H. Ellis, Mrs. W. H. Fraser, Mrs. Major Foster, Mrs. H. R. Fairclough, Mrs. Gailbraith, Mrs. Col. C. S. Gzowski, Mrs. J. E. Graham, Mrs. Hutton, Mrs. Thomas Hodgins, Mrs. John Hoskin, Mrs. R. A. Hoskins, Mrs. Jas. Hedley, Miss May Jones, Mrs. W. H. Howland, Mrs. Loudon, Mrs. S. H. Kellogg, Mrs. T. Kirkland, Mrs. D. R. Keys, Mrs. Henry Langley, Mrs. Thomas Langton, Mrs. J. F. McCurdy, Mrs. L. McFarlane, Mrs. Thomas McGaw, Lady Macpherson, Mrs. Oliver Mowat, Mrs. E. A. Meredith, Mrs. Alexander Manning, Mrs. J. Herbert Mason, Mrs. William McDonald, Mrs. James MacLennan, Mrs. William Mulock, Mrs. A. Marsh, Miss Mickle, Miss Sallie Mickle, Mrs. Alan Macdougall, Mrs. H. W. Merritt, Mrs. Hugh Neilson, Mrs. D. A. O'Sullivan, Mrs. W. Oldright, Mrs. G. W. Ross, Mrs. G. M. Rae, Mrs. G. H. Robinson, Mrs. W. C. R. Street, Mrs. Sweny, Mrs. B. Spencer, Mrs. J. E. Berkley-Smith, Mrs. G. E. Shaw, Mrs. Skae, Mrs. John Taylor, Mrs. F. H. Torrington, Mrs. D. Wilson, Mrs. B. E. Walker, Mrs. A. H. Wright, Mrs. R. W. Wright.

ANNOUNCEMENT OF THE PERMANENT SECRETARY.

Members will please call at the office of the Permanent Secretary as soon as possible after arrival, to receive their members' tickets. Members will register at the table of the Local Committee and receive their badges *after* obtaining their tickets.

Attention is directed to the following rule relating to members families :

" Every member of the Association shall have the privilege of registering members of his family, not including men over twenty-one years of age, by paying the sum of three dollars for each person so registered, and shall receive for them specific badges which will entitle the holder thereof to such privileges as may be extended to the members generally by the Local Committee for the meeting."

All assessments and admission fees must be paid at the office of the Permanent Secretary, and the assessment for the meeting must be paid before registering and receiving the Association badge.

Newly elected members will obtain their certificates of membership at the office of the Permanent Secretary, upon payment of the admission fee of \$5.00 and assessment of \$3.00.

Members will please report any change of permanent address, or the decease of other members, at the office of the Permanent Secretary.

Blanks for entering the Titles of Communications and for Recommendation to Membership can be obtained in the Local Committee Room.

Subscriptions for the Toronto volume of "Proceedings" will be taken at the office of the Permanent Secretary; and subscriptions are solicited from the friends of the Association, and from such members as wish to obtain duplicate copies of the volume. Every person subscribing \$1.50 or more will receive a copy of the volume as soon as published.

The volumes of the "Proceedings" of the Association can be obtained from the Permanent Secretary, at the price of \$1.50 per volume ; or any member wishing for ten or more volumes in order to complete a set, may obtain them at \$1.00 per volume. The volumes may be had bound in cloth at the extra price of 50 cents each, or in half Morocco at the extra

price of \$1.00 each. Uniform cloth covers for the volumes will be furnished by mail at 30 cents each, or by express at 25 cents each. Samples can be seen and orders given at the office. The "Memoir on Fossil Butterflies," 4to, 1875, by S. H. Scudder, published by the donation of Mrs. Elizabeth Thompson, will be furnished at \$2.00 a copy, or at \$3.50 bound in half Morocco. "The Transactions of the American Association of Geologists and Naturalists," 1 vol., 8vo., 1843, bound in cloth, can be obtained at \$3.00 a copy, or bound in half Morocco, uniform with the "Proceedings," for \$4.00.

The CLEVELAND VOLUME OF PROCEEDINGS was issued in July and has been sent from the Salem office to all members who paid the Cleveland assessment previous to August 20th. Those paying since that date, and those who pay back assessments at the present meeting, will receive the volumes to which they are entitled after the adjournment of this meeting

ANNOUNCEMENT OF THE COUNCIL.

The Council calls attention to the following extracts from the Constitution of the Association, and to the statement in relation to papers :

MEMBERS, FELLOWS, LIFE MEMBERS AND PATRONS.

ART. 3. Any person may become a member of the Association upon recommendation in writing by two members or fellows, and election by the Council.

(Blank forms for recommendation to membership can be had in the Local Committee Room. Recommendations should reach the Secretary of the Council as early as possible each day. *Those received after 9 a.m. cannot be acted upon until next day.*)

ART. 4. Fellows shall be elected by the Council from such of the members as are professionally engaged in science, or have by their labors aided in advancing science. The election of the Fellows shall be by ballot, and a majority vote of the members of the Council at a designated meeting.

(Special blanks for the nomination of Fellows can be had of the Permanent Secretary.)

ART. 5. Any person paying to the Association the sum of one thousand dollars shall be classed as a Patron, and shall be entitled to all the privileges of a member, and to all its publications.

ART. 7. The name of any member or fellow two years in arrears for annual dues shall be erased from the list of the Association, provided that two notices of indebtedness, at an interval of at least three months, shall have been given ; and no such person shall be restored until he has paid his arrears or has been re-elected.

ART. 34. The admission fee for members shall be \$5.00, in addition to the annual assessment. (These must be paid for the meeting at which the election is announced.) On the election of any member as a fellow an additional fee of \$2.00 shall be paid.

ART. 35. The annual assessment for members and fellows shall be \$3.00.

ART. 36. Any member or fellow who shall pay the sum of fifty dollars to the Association, at any one time, shall become a Life Member, and as such shall be exempt from all further assessments, and shall be entitled to the Proceedings of the Association. All money thus received shall be invested as a permanent fund, the income of which, during the life of the member, shall form a part of the general fund of the Association; but after his death, shall be used only to assist in original research, unless otherwise directed by the unanimous vote of the Council. (New members becoming Life Members must pay the admission fee of \$5.00.)

ART. 37. All admission fees and assessments must be paid to the Permanent Secretary (or his Assistant), who shall give proper receipts for the same.

ART. 28. All members and fellows must forward to the Permanent Secretary, as early as possible, and, when practicable, before the convening of the Association, full titles of all the papers which they propose to present during the meeting, with a statement of the time that each will occupy in delivery, and also such abstracts of their contents as will give a general idea of their nature; and no title shall be referred by the Council to the Sectional Committee until an abstract of the paper, or the paper itself, has been received.

ART. 31. Authors must prepare their papers or abstracts ready for the press, and these must be in the hands of the Secretaries of the Sections before the final adjournment of the meeting, otherwise only the titles will appear in the printed volume. The Council shall have power to order the printing of any paper by abstract or title only.

ART. 25. A paper shall not be read in any section or sub-section until it has been received from the Council, and placed on the programme of the day by the Sectional Committee.

. The titles of papers will not be given out until they are put on the programme by the Sectional Committees, and a paper will not be accepted by the Committee *unless accompanied by a proper abstract*. Blank forms for the giving titles and abstracts of papers can be had in the Local Committee room. The Council particularly calls attention to the fact that *papers cannot be received after 9 o'clock, Monday morning, September 2nd.*

ANNOUNCEMENTS OF THE LOCAL COMMITTEE.

ROOMS.

By the courtesy of the authorities the meetings of the Association will be held in the University Buildings, the School of Practical Science, and Association Hall.

The opening Session and all the morning General Sessions will be held in the University Convocation Hall. The final General Session on Tuesday evening will be held in Association Hall.

SECTION ROOMS.

Sections A, B, D, E, H, I, will meet in the main University Building in rooms Nos. 4, 8, 5, 7, and in Convocation Hall on the ground floor, and room on the west end second floor.

Section C will meet in the School of Practical Science.

Section F will meet in the new Biological Building.

The Council will meet in the University Senate Chamber.

OFFICES.

The offices of the Permanent and Local Secretaries are in Room 2, first door left of the entrance, University Building.

POST OFFICE, TELEGRAPH AND TELEPHONE.

The P.O. and Telegraph Offices are in Room 1, University Building.

The Great North Western Telegraph Co. will send free over its own lines, short social messages, when stamped by the Local Secretary. Such messages to the United States will accordingly be charged half the usual rates.

Telephone rooms will be found at the main entrance.

WRITING ROOM.

A writing room is provided adjacent to the Library, second floor of the University Building.

LADIES' ROOM.

Room on ground floor, University Building.

BADGES.

Members of the Association, and Associates, will register at the desk of the Local Secretary after they have obtained their assessment receipt from the Permanent Secretary. Each member and associate will then receive a badge stamped with the number corresponding the name printed in the daily list of arrivals. These badges will entitle the owner to all the privileges extended to the Association.

Special badges are prepared for the members of the Botanical and Entomological Clubs, which may be obtained from the officers of those clubs.

Special badges are also made for the Local Committee and its officers, and for representatives of the Press. These may be obtained of the Local Secretary.

The colors of the badges are as follows :

Membership—Coral.

Entomological Club—Dark Terra Cotta.

Botanical Club—Dark Green.

Local Committee—Blue.

The Press—Red.

LUNCH.

A lunch, free to all wearing the above badges, will be provided daily except on Saturday and Sunday in the Dining Hall at the north-west corner of the Quadrangle, Main Building.

HOTEL HEADQUARTERS.

The Ladies' Parlor at the Queen's is placed at the disposal of the ladies and gentlemen of the Association, and the Gentlemen's Parlor will be used by Committees and for an evening office.

EXCURSIONS AND RECEPTIONS.

Two excursions have been arranged for Saturday, the 31st, for which members must register before four o'clock to-day.

The steamer Cibola will leave Yonge street wharf at 7.00 a.m. sharp, for Niagara-on-the-Lake, thence the excursionists will proceed to the Falls by the Michigan Central Railway.

Returning, the train leaves the Falls at 4.30 p.m.

Lunch will be served in the restaurant in the Queen Victoria Park.

The number is limited to 500.

MUSKOKA.

Tickets for the Muskoka excursion will be good either on the train leaving Toronto at 11 p.m. on Friday, or that leaving at 10.10 a.m. on Saturday. By the former the Pullman car fare is \$1.50. The tickets are good to any point on the lakes, and to return on Monday, reaching Toronto at 4.25 p.m. Arrangements have been made with Mr. Cox, at Port Sandfield, for boarding the excursionists at \$1.50 per day. The number is limited to 200.

Get your railway certificates signed and stamped by the Secretary, Mr. W. R. Callaway. Office on right hand of main entrance.

HURONIAN COUNTRY.

Members and Associate Members of the Association who wish to join in a Geological Excursion to the Huronian Country after the adjournment of the General Session, on Tuesday night, are requested to give their names to the Secretary of Section E., or to Mr. W. R. Callaway of the R. R. Committee.

THE TORONTO AMATEUR PHOTOGRAPHIC ASSOCIATION

will be happy to place their rooms, in the Medical Council building, corner of Bay and Richmond streets, at the disposal of the members of the Association during their stay in town.

CLUBS.

The President and members of the Granite Club, 465 Church street, offer the privileges of the Club to the members of the Association during their visit to Toronto.

The President and members of the Royal Canadian Yacht Club offer the same privileges at their club house, on the Island. The steam launch leaves the foot of Lorne Street at the hour and half hour. Members of the Association will be taken over on production of their membership badge.

A GEOLOGICAL MAP

of the Province of Ontario is ready for distribution, and can be obtained at the office of the Local Secretary.

MESSENGER SERVICE.

Messenger boys, who can be employed for any light service by payment of the customary fee, will be found at the P. O. and Telegraph room.

All botanists, members of the Association, are requested to Register at room 7, in the University Buildings, as soon as practicable after their arrival. They will be furnished with special badges.

The ordinary hour meetings of the Botanical Club of the Association will be held in the room assigned to it, on Thursday, Friday, Monday and Tuesday, at 9 o'clock a. m.

ENTOMOLOGICAL CLUB.

The Entomological Club will meet daily at 9 a. m., in room assigned in the University Buildings.

PUBLICATION IN THE PRESS.

The daily newspapers of Toronto will publish full reports of the meetings, the papers read, and the discussions held. If authors will kindly provide abstracts of their papers in advance (not those sent to the Council), the printing will greatly be facilitated. Such matter should be addressed to James Hedley, Chairman of the Committee on the Press, at office of the Local Secretary, who will hold the abstracts from publication until the papers have been read in the sections.

CANADIAN INSTITUTE.

The Reading Room, Library and Museum of the Canadian Institute, 46 Richmond Street East, will be open to the members, daily, from 10 a. m. to 6 p. m.

RECEPTION BY CITY COUNCIL AND CITIZENS.

A garden party will be given by the City Council on Tuesday afternoon, September 3rd, in the grounds of Government House, by the kind permission of His Honor the Lieutenant-Governor of the Province.

MANITOBA INDUSTRIAL COLLECTION.

Members are invited to visit the collection of industrial and agricultural products of the Province of Manitoba, in the building at the corner of York and Front street.

OMNIBUSES

Will leave the Queen's Hotel, calling at the Rossin House, at 8.30, 9 and 9.30 for the University, returning between 5 and 6 ; fare for round trip, 25 cents.

[Special programmes will be issued every morning, except Saturday and Sunday.]

Programme for Friday, August 30.

Morning.

Meeting of the Council at 9 o'clock.

General Session from 10 to 10:15 o'clock.

Meeting of the Sections at 10:15 o'clock.

Afternoon.

Meeting of the Sections from 2 to 5 o'clock.

From 5 to 7 o'clock Mrs. W. H. Beatty, Queen's Park, will receive the Members of the Association.

At 8 o'clock, in the Pavilion, Horticultural Gardens, Mr. G. K. Gilbert, of the United States Geological Survey, will deliver a lecture on the Geological History of Niagara River. This lecture is complimentary to the citizens of Toronto.

SECTION A.—MATHEMATICS AND ASTRONOMY.

Vice-President—R. S. WOODWARD, of Washington.

Secretary—G. C. COMSTOCK, of Madison, Wis.

Member of the Council.

E. W. HYDE, of Cincinnati, Ohio.

Members of the Sectional Committee.

J. BURKITT WEBB, of HOBOKEN, N.J.

HENRY FARQUHAR, of Washington.

W. W. BEEMAN, of Ann Arbor, Mich.

Member of the Nominating Committee.

CHARLES S. HOWE, Cleveland, O.

Members of the Sub-committee on Nominations.

H. A. NEWTON, of New Haven, Ct.

WILLIAM HARKNESS, of Washington.

J. R. EASTMAN, of Washington.

PAPERS TO BE READ ON FRIDAY.

72. On the Solar Parallax and its Related Constants.—30 min.—By Wm. Harkness.

7. Double Star Discoveries and Measures made at the Lick Observatory August 1st, 1888, to August 1st, 1889.—10 min.—By S. W. Burnham

160. A Proposed Catalogue of Declinations.—45 min.—By Henry Farquhar.

179. The Solar Corona, a Phenomenon in Spherical Harmonics —5 min.—By Frank H. Bigelow.

136. On the Automatic Eclipsograph.—15 min.—By David P. Todd.

103. Errors in Star Catalogues.—15 min.—By E. Frisby

SECTION B.—PHYSICS.

Vice-President—H. S. CARHART, of Ann Arbor, Mich.

Secretary—E. L. NICHOLS, of Ithaca, N. Y.

Member of the Council.

W. A. ROGERS, of Waterville, Me.

Members of the Sectional Committee.

W. LE CONTE STEVENS, Brooklyn, N. Y.

A. E. DOLBEAR, College Hill, Mass

CHARLES CARPMAEL, Toronto

Member of the Nominating Committee.

JAMES LOUDON, of Toronto.

Members of the Sub-Committee on Nominations.

E. W. MORLEY, Cleveland, Ohio.

C. H. MCLEOD, Montreal.

T. C. MENDENHALL, Washington.

PAPERS TO BE READ IN SECTION B. ON FRIDAY.

12. On the Partition of the Mean Kinetic Energy of a Perfect Gas between the Rotary and Translatory Motions of its Molecules.—8 min.—By H. J. Eddy.
13. Note on the Magnetic Rotation of Polarized Light according to the Electro Magnetic Theory.—10 min.—By H. T. Eddy.
163. Relative Merits of Dynamometric and Magnetic Methods of Obtaining Absolute Measurements of Electric Currents —30 min.—By Thomas Gray.
19. A Quadrant Electrometer.—5 min.—By Harris J. Ryan.
105. Magnetic Leakage in Dynamos.—10 min.—By H. S. Carhart.
104. An Improved Standard Clark Cell with Low Temperature Coefficient.—15 min.—By H. S. Carhart.
107. On Globular Lightning.—By T. C. Mendenhall.
24. A Preliminary Report on the Influence of Temperature upon the Color of Pigments.—15 min.—By Edward L. Nichols and B. W. Snow.
20. The Solar Condition upon which the Aurora Depends.—5 min.—By M. A. Veeder.
117. The Determination of the Amount of Rainfall.—12 min.—By Cleveland Abbe.
21. The Hydro-electric Effect of Stretching Metals.—15 min.—By Carl Barus.
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SECTION C.—CHEMISTRY.

Vice-President—WILLIAM L. DUDLEY, of Nashville, Tenn.

Secretary—EDWARD HART, of Easton, Pa.

Member of the Council.

HARVEY W. WILEY, of Washington, D.C.

Members of the Sectional Committee.

H. H. NICHOLSON, of Lincoln, Neb.

F. W. CLARKE, of Washington, D.C.

IRA REMSEN, of Baltimore, Md.

Member of the Nominating Committee.

A. P. S. STUART, of Lincoln, Neb.

Members of the Sub-committee on Nominations.

H. C. BOLTON, of New York City.

A. B. PRESCOTT, of Ann Arbor, Mich.

W. A. NOYES, of Terre Haute, Ind.

PAPERS TO READ ON FRIDAY.

33. Dynamical Theory of Albuminoid Ammonia.—50 min.—By Robert B. Warder.
29. The Action of Light on Silver Chloride.—10 min.—R. Hitchcock.
30. A Method of Mounting Photographic Prints on Paper.—5 mins.—R. Hitchcock.
183. Some Notes on the Estimation of Nitrogen by the Kjeldahl Method.—10 min.—M. A. Scott.
156. Succinylsuccinic Acid.—15 min.—Adolph Bayer, Munich, Germany, and A. W. Noyes.
157. Estimation of Bromine in presence of Chlorine.—10 min.—Albert B. Prescott.
130. On the Acquisition of Atmospheric Nitrogen by Plants.—20 min.—W. O. Atwater.
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TWO P. M.

Discussion of the Report of Committee on the formation of a National Chemical Society.

SECTION D.—MECHANICAL SCIENCE AND ENGINEERING.

Vice-President—JAMES E. DENTON, of Hoboken, N.J.

Secretary—W. R. WARNER, of Cleveland, Ohio.

Member of the Council.

CADY STALEY, of Cleveland, Ohio.

Members of the Sectional Committee.

O. CHANUTE, of Kansas City, Mo.

M. E. COOLEY, of Ann Arbor, Mich.

C. H. SMITH, of Austin, Texas.

Members of the Nominating Committee.

Members of the Sub-committee on Nominations.

J. GAILBRAITH, Toronto.

A. E. DOLBEAR, College Hill, Mass.

THOMAS GRAY, Terre Haute, Ind.

PAPERS TO BE READ ON FRIDAY.

Note on performance of a pumping engine.—10 min.—By M. E. Cooley.

New device for Autographic Registry of Extension in Tension Tests.—15 min.—By Thos. Gray.

Notes on Anti-friction Construction for Revolving Mechanism for Observatory Domes.—10 min.—By W. R. Warner.

Note on performance of a Vibrating Piston Engine.—10 min.—By M. E. Cooley.

Probable principal cause of Superior Economy of Multiple Expansion Engines.—10 min.—By J. E. Denton.

Exhibition of a Novel Motor.

SECTION E.—GEOLOGY AND GEOGRAPHY.

Vice-President—CHARLES A. WHITE, of Washington.

Secretary—JOHN C. BRANNER, of Little Rock, Ark.

Member of the Council.

W. H. WINCHELL, of Minneapolis, Minn.

Members of the Sectional Committee.

ALEXANDER WINCHELL, of Ann Arbor, Mich.

H. L. FAIRCHILD, of Rochester, N. Y.

J. C. WHITE, of Morgantown, West Va.

Member of the Nominating Committee.

G. K. GILBERT, of Washington.

Members of the Sub-committee on Nominations.

C. D. WALCOTT, of Washington.

R. T. HILL, of Austin, Texas.

W. J. MCGEE, of Washington.

PAPERS TO BE READ ON FRIDAY.

122. Typographic Types of North-Eastern Iowa.—25 min.—By W. J. McGee.
39. The Lake Ridges of Ohio and their Probable Relations to the Lines of Glacial Drainage into the Valley of the Susquehanna.—30 min.—By G. F. Wright.
- 41-42. (a.) The Moraines of the Wabash—Erie region. (b.) The Irondequoit Glacier —15 min —By C. R. Dryer.
43. Glacial Phenomena of Northern Indiana and North-Eastern Illinois —20 min.—By Frank Leverett.
106. The Attractive Scenery of our own Land.—20 min.—By A. S. Bickmore.
128. The Mastodon of Kent and What We Know About It.—20 min.—By Ed. Jones, Esq.
37. On Certain Remarkable New Fossil Plants from the Erian and Carboniferous, and on the Characters and Affinities of the Paleozoic Gymnosperms.—20 min.—By Sir Wm. Dawson.
46. Mammoth Cave.—20 min.—By H. C. Hovey.
45. The Devonian System of North and South Devonshire.—25 min.—By H. S. Williams.

SECTION F.—BIOLOGY.

Vice-President—GEORGE L. GOODALE, of Cambridge, Mass.

Secretary—A. W. BUTLER, of Brookville, Ind.

Members of the Council.

W. H. DALL, of Washington, D.C.

Members of the Sectional Committee.

A. J. COOK, of Lansing, Mich.

T. J. BURRILL, of Champaign, Ill.

D. H. CAMPBELL, of Bloomington, Ind.

Member of the Nominating Committee.

W. J. BEAL, of Lansing, Mich.

Members of the Sub-committee on Nominations.

L. O. HOWARD, of Washington, D. C.

D. F. DAY, of Buffalo, N. Y.

C. E. BESSEY, of Lincoln, Neb.

PAPERS TO BE READ ON FRIDAY.

- 59. On the genus *Eleocharis* in America.—10 min.—By N. L. Britton.
- 60. On the tropical distribution of certain sedges.—15 min.—By N. L. Britton.
- 65. Alimentary apparatus of the Honey Bee.—13 min.—By A. J. Cook.
- 111. A suggestion concerning scientific work.—15 min.—By Wm. A. Dudley.
- 114. A newly imported Elu insect.—15 min.—By L. O. Howard.
- 63. Notes on seedlings of *Elymus virginicus*.—5 min.—By W. J. Beal.
- 64. Notes on Bird's Eye Maple.—15 min.—By W. J. Beal.
- 50. On the assumption of floral characters by axial growths in *Andromeda Catesbæi*.—5 min.—By Thomas Meehan.
- 51. On the significance of dioecism as illustrated by *Pycnanthemum*.—10 min.—By Thomas Meehan.
- 52. On the higher division of the Pelecypoda.—40 min.—By W. H. Dall
- 61. On the flora of New Jersey.—20 min.—By N. L. Britton.

189. The House-fly: *Hematobia cornicula* will.—10 min.—By John B. Smith.
135. Reserve food substances in twigs.—10 min.—By Byron D. Halsted.
145. Notes upon stamens of Solenaceæ.—7 min.—By Byron D. Halsted.
55. The relation between temperature and the number of vertebrae in fishes.—10 min.—By D. S. Jordan.
62. The new botanical laboratory of Barnard College—5 min.—By N. L. Britton.
155. A bacterial disease of Indian Corn.—15 min.—By T. J. Burrill.
154. A bacterial disease of Carnations.—15 min.—By J. C. Arthur.

SECTION H.—ANTHROPOLOGY.

Vice-President—GARRICK MALLERY, of Washington.

Secretary—W. M. BEAUCHAMP, of Baldwinsville, N. Y.

Memoer of the Council.

J. O. DORSEY, of Washington.

Members of the Sectional Committee.

H. W. HENSHAW, of Washington.

C. C. ABBOTT, of Trenton, N. J.

JOSEPH JASTROW, of Madison, Wis.

Member of the Nominating Committee.

Wm. H. HALE, of Albany, N. Y.

Members of the Sub-committee on Nominations.

A. F. CHAMBERLAIN, of Toronto.

L. C. WURTELE, of Acton Vale, Quebec.

G. P. THRUSTON, of Nashville, Tenn.

PAPERS TO BE READ ON FRIDAY.

93. Evidences of the successors of Palaeolithic Man in the Delaware River Valley.—25 min.—By C. C. Abbott.
137. The Winnipeg Mound Region —15 min.—By George Bryce.
141. Artificial Languages.—25 min.—By David R. Keys.
84. New Linguistic Family in California —15 min.—By H. Henshaw.

108. The Parsee Towers of Silma.—10 min.—By Mrs. R. Hitchcock.
166. Seega, an Egyptian game —5 min. -- By H. C. Bolton.
118. Onodaga Shamanic Masks.—20 min --By De Cost Smith.
115. Gold ornament from Florida.—30 min.—By A. E. Douglas.
82. The Phonetic alphabet of the Winnebago Indians.—20 min.—By Miss Alice C. Fletcher.
78. The Middlewiwin, or Grand Medicine Society of the Ojibwoon.—45 min.—By W. J. Hoffman.

SECTION I.—ECONOMIC SCIENCE AND STATISTICS.

Vice-President—CHARLES S. HILL, of Washington.

Secretary—J. R. DODGE, of Washington.

Member of Council.

Joseph CUMMINGS, Evanston, Ill.

Members of the Sectional Committee.

W. O. ATWATER, Middletown, Conn.

W. R. LAZENBY, Columbus, Ohio.

Lester F. WARD, Washington, D.C.

Member of the Nominating Committee.

Henry FARQUHAR, Washington, D.C.

Members of the Sub-committee on Nomination.

R. E. FERNOW, Washington, D.C.

Gustav LINDENTHALL.

Geo. ILES, Toronto.

PAPERS TO BE READ IN SECTION I ON FRIDAY.

148. Food moulds the Race—15 min.—Mrs. Nellie S. Kedsie.
149. National Interest in Material Resources.—30 min --B. E. Fernow.
157. The sociologic position of Protection and Free Trade.—40 min.—Lester A. Ward.
131. Agricultural Experiment Stations.—20 min.—W. O. Atwater.

158. Certain Aspects of Agriculture in the Arid Regions.—20 min.—J. Richards Dodge.
147. Development of Trade Channels. —30 min.—Henry C. Taylor.
142. Statistical Results of the Examination of Eyesight of five thousand Public School Children.—20 min.—Dr. G. Stirling Ryerson.
159. The Abolition of Slavery in Upper Canada.—20 min.—Wm Houston.
152. The Science of Economic Engineering.—40 min.—Gustav Lindenthall.
153. Industrial Education.—15 min.—By Laura Osborn Talbot.
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Saturday, August 31.

(No Sessions to-day.)

There will be two excursions given by the Local Committee to the members of the Association, one to Niagara Falls, the other to Muskoka.

Members intending to go on either excursion must register before Friday at noon

Mrs. Sweny, Sahara, west end of the Island, will be at home to members of the Association from 5 to 6.

Monday, September 2.

Morning.

Meeting of the Council at 9 o'clock.

(The Special Committees must present their reports to the Council not later than this morning, and the Council will advise the discharge of all Committees not reporting).

General Session from 10 to 10:15 o'clock.

Meeting of the Sections at 10:15 o'clock.

Afternoon.

Meeting of the Sections at 2 o'clock.

Evening.

At 8 o'clock in the Pavilion, Horticultural Gardens, Dr. H. Carrington Bolton, of New York, will deliver a lecture entitled, "Four Weeks in the Desert of Mount Sinai," illustrated by projections of original photographs. This lecture is complimentary to the citizens of Toronto.

Meeting of the Nominating Committee at The Queen's, at 10 o'clock, to nominate officers for next year, and to suggest time and place for the next meeting of the Association.

*Tuesday, September 3.***Morning.**

Meeting of the Council at 9 o'clock.

GENERAL SESSION at 10 o'clock.

Election of Officers and Agreement on time and place of Meeting for 1890.

General business.

Meeting of the Sections after the adjournment of the General Session.

Afternoon.

Meeting of the Sections at 2 o'clock.

Final adjournment of the Sections.

Garden party in Government House grounds, from 5 to 7 o'clock, tendered by the City Council and Citizens.

Evening.

GENERAL SESSION in Association Hall, Yonge Street, at 8 o'clock.

Concluding exercises and adjournment of the Association.

After the adjournment of the meeting there will be several excursions, particulars of which will be given in a future programme. These excursions close the Thirty-eighth Meeting on September 10th.

MEMBERS ELECTED.

August 27, 1889.

1. Henry C. Appleton, Publisher, 1 Bond St., New York. **E I**
2. Ad. F. Bandelier, Santa Fe, N. M. **H**
3. William D. Boardman, 38 Kenilworth St., Roxbury, Mass. **E**
4. Prof. Theo. Brantly, College of Montana, Deer Lodge, Mont. T. **H I**
5. Prof. Wm. T. Brooks, Mass. Agric. College, Amherst, Mass. **C F**
6. Prof. George Bryce, LL.D., Manitoba College, Winnipeg, Manitoba. **H**
7. Capt. Thos. L. Casey, U. S. Engineer, Army Building, New York, N.Y. **F**
8. Alexander F. Chamberlain, 34 Arthur St., Toronto, Ont. **H**
9. Royal Tyler Church, Turin, Lewis Co., N.Y. **D F**
10. William A. Croffut, U. S. Geological Survey, Washington. **H I**
11. Susan J. Cunningham, Prof of Mathematics and Astronomy Swarthmore College, Swarthmore, Pa. **A**
12. John Daniel, Instructor in Physics, Vanderbilt Univ., Nashville, Tenn. **B**
13. John M. Davison, 60 Oxford St., Rochester, N.Y. **C**
14. Luther M. Donaldson, care National Fertilizer Co., Nashville, Tenn. **C**
15. Fred. James Dorand, Chester, Vt. **A I**
16. W. A. Douglass, B.A., 220 Wellesley St., Toronto, Ont. **I**
17. Charles Redway Dryer, Assistant Indiana State Geological Survey Fort Wayne, Ind. **E**
18. Frank E. Emery, Geneva, Ontario Co., N.Y. **F**
19. Howard V Frost, Prof. of Chemistry in the Brooklyn Polytechnic Institute, Arlington, Mass. **C**
20. Edwin Brant Frost, Inst. in Astronomy and Physics, Dartmouth Col., Hanover, N. H.
21. Rev Otis Allan Glazebrook, D.D., Elizabeth, N.J.
22. G. K. Greene, New Albany, Ind. **E F**
23. Thos. Gray, Prof Dynamic, Engineering, Rose Polytechnic Inst., Terre Haute, Ind.
24. James Cleland Hamilton, M.A., LL.B., Toronto, Ont.
25. Rev. Gottlieb C. H. Hasskarl, Syracuse, N.Y.
26. John Beazley Hastings, Mining Engineer, Ketchum Allaturas Co., Idaho. **E**

27. John Blackstock Hawley, Engineer of St. Paul Water-Works, St. Paul, Minn. **B**
28. Walter J. Hoffman, M.D., Bureau of Ethnology, Washington, D.C. **H**
29. Lewis E Hood, E. Somerville, Mass. **F**
30. Thomas Hopkins, Assistant Geological Survey of Arkansas, Little Rock, Ark. **E**
31. Walter Hough, Ass't Department of Ethnology, U. S. National Museum, Washington, D.C. **H**
32. James T. Hoyt, Temple Court, Beekman St., New York. **A H**
33. Andrew F Hunter, Barrie Ont. **B H**
34. Dr. John Amory Jeffries, 91 Newbury St., Boston, Mass. **F**
35. Thos. Moore Jackson, C.E., Prof. Civil Engineering, W. Va. University, Morgantown, W. Va.
36. J. Floyd King, New York Hotel, New York, N.Y. **D**
37. Otto Julius Klotz, Field Astronomer, Dominion Governm't, Preston, Ont.
38. William Roscoe Livermore, Maj. of Eng., U. S. A., Newport, R.I. **C**
39. Alan Macdougall, F. R. S., Edin., Toronto, Ont. **D H**
40. Jos. E. McDougall, Maritime Court, 121 Carleton St., Toronto, Ont.
41. Charles E. McGowan, M.D., New London, Conn. **E**
42. Rev. John McLean, M.A., Ph.D., Macleod, Alberta, Can.
43. Alexander Chas. McKay, Mathematical Master, Upper Canada College, Toronto.
44. Artemas Martin, Librarian and Custodian of Archives, Coast Survey Office, Washington, D.C. **A**
45. Charles C. Mellon, Vice-Pres. Iron City Microscopical Society, Pittsburgh, Pa. **F**
46. Wm Hamilton Merritt, 40 St. George street, Toronto. **E I**
47. Cosmos Mindeleff, Bureau of Ethnology, Washington, D.C. **H**
48. Victor Mindeleff, Bureau of Ethnology, Washington, D.C. **H**
49. James Mooney, Bureau of Ethnology, Washington, D.C. **H**
50. Frank Newton Notestein, Prof. of Mathematics and Astronomy, The College of Montana, Deer Lodge, M.T. **A F**
51. George D. Olds, Prof. of Mathematics, Univ. of Rochester, Rochester, N.Y. **A**
52. Frank Owen Payne, Teacher of Science, Appleton, Minn. **F**
53. Dr. R. A. F. Penrose, jr., State Geological Survey, Little Rock, Ark. **E**
54. Ernest B. Perry, Ann Arbor, Mich. **D**
55. George H. Peters, Hartford, Conn. **A B**

56. Eben Putnam, Boston, Mass. **HI**
57. James Cochrane Quinn, Prof. of Mental and Moral Philosophy,
National Univ., Chicago, Helena, Montana. **EFHI**
58. Taylor Reed, Princeton, N.J. **A**
59. A. H. Russell, Captain of Ordnance, U.S.A., Providence, R.I. **D**
60. Harris J. Ryan, Asst. Prof. of Electrical Engineering, Cornell
Univ., Ithaca, N.Y. **B**
61. George S. Ryerson, M.D., 60 College Ave., Toronto, Ont. **F**
62. Wm. H. Seaman, Prof. Analytical Chemistry, School of Mines,
Univ. of Missouri, Rolla, Mo.
63. G. N. Saegmuller, Washington, D.C. **AB**
64. John R. Scupham, C. & M. Engineer, Oakland, Cal. **E**
65. Dilman B. Shantz, Berlin, Ont. **I**
66. Porter W. Shimer, E.M., Easton, Pa. **C**
67. Frank T. Shutt, M.A., Chemist to the Dominion Experimental
Farms, Ottawa, Ont. **C**
68. De Cost Smith, Skaneateles, N.Y. **H**
69. Joseph B. Stearns, Camden, Maine. **B**
70. Francis L. Stewart, Murraysville, Pa. **CF**
71. Henry Newlin Stokes, Ph. D., Chemical Laboratory, U.S. Geo-
logical Survey, Washington, D.C. **CE**
72. Charles Stuart Street, 38 Kenilworth St., Roxbury, Mass. **EC**
73. Charles B. Thwing, Instructor in Physics, North-Western Univ.,
Evanston, Ill. **B**
74. Gerritt E. H. Weaver, Instructor in Swarthmore College, Swarth-
more, Pa. **F**
75. Miss Nellie B. West, 56 W. 55th St., New York, N.Y. **E**
76. Prof. T. R. White, 353 W. 57th St., New York, N.Y. **HA**
77. Prof. W. P. Wilsor, 640 North 32nd St., Philadelphia, Pa. **F**
78. S. Grant Wright, Perrysville, Ind. **F**
79. Harrison Garman, Entomologist and Botanist, State Exper. Station,
Lexington, Ky. **F**
80. Prof. John W. Hartigan, W. Va. University, Morgantown, W
Va. **F**
81. Chs. W. Hastings, Kansas City, Mo. **B**
82. Wm. Houston, Govt Library, Toronto, Ont. **I**
83. Walter Hough, Nat. Museum, Washington, D.C. **H**
84. James Gibson Hume, Univ. College, Toronto. **I**
85. Herbert G. Ogden, U.S. Coast and Geodetic Survey, Washington,
D.C. **AB**
86. Frank Fitz Payne, Meteorological Office, Toronto. **B**
87. James H. Pearce, Toronto, Ont. **F**
88. John Edward White, Toronto, Ont. **F**

89. James G. Witton, University College, Toronto, Ont. **B**
90. Prof. R. Ramsay Wright, Toronto, Ont. **F**
91. Prof. Chs. W. Hargitt, Oxford, Ohio.
92. John H. Means, Geological Survey, Little Rock, Ark. **E**
93. William Kennedy, Geological Survey, Little Rock, Ark. **E H**
94. Leon Stacy Griswold, Geol. Survey, Little Rock, Ark. **E**
95. Thos. Hopkins, Geol. Survey, Little Rock, Ark. **E**
96. Dr Andrew C Lawson, Ottawa, Canada. **E**
97. John Perrin, Mount Royal Park, Montreal. **B**
98. F. W. Kuhne, Fort Wayne, Ind.
99. A. Isabel Mulford, Orange, N.J. **F**
100. John Galbraith, Prof. Civil Engineering, Toronto. **A**
101. Archibald Hope Young, Upper Canada College, Toronto. **H**
102. Henry H. Wing, Cornell Univ. Expt. Station, Ithaca, N.Y.
103. Gales P. Thruston, Nashville, Tenn. **H**
104. Clarence M. Weed, Ohio Expt. Station, Columbus, O. **F**
105. William Macdonald Toronto, Ont.
106. Thomas Shortiss, Toronto, Ont. **D E**
107. Peter Bryce, Sec'y Board of Health, Toronto, Ont. **F H**
108. Archibald B. Macallum, University College, Toronto, Canada.
109. W. Reynolds Singleton, Washington. **H**
110. Dr. Thomas J. W. Burgess, Hamilton, Ont. **F**
111. Asaph Hall, Jr., U. S. Naval Observatory, Washington. **A**

Wednesday, August 28.

112. Cortez Fessenden, Wapanee, Ont.
113. William Wallace Campbell, Instructor in Astronomy, University of Michigan, Ann Arbor, Mich. **A**
114. Alexander Ziwet, Ann Arbor, Mich. **A**
115. W. A. Burmace, Winnipeg.
116. David Reid Keys, University College, Toronto. **H**
117. Prof. Thomas H. McBride, State Univ. of Iowa, Iowa City. **F**
118. Dr. Alfred R. C. Selwyn, Director of Geological Survey of Canada, Ottawa. **E**
119. Chase Palmer, Prof. of Chemistry, Wabash College, Crawfordsville, Ind. **C**
120. Prof. Samuel T. Maynard, Prof. Botany, Massachusetts Agri. Coll., Amherst, Mass. **F**
121. Curtis C. Howard, Prof. of Chemistry, Starling Medical College, Columbus, Ohio. **C**
122. Eugene H. Roberts, University of Mississippi, Oxford, Miss.
123. Allen D. Risteen, Hartford, Connecticut. **A B D**

124. Edward B. Shuttleworth, Dean of Ontario College of Pharmacy. **C**
125. William Knox, Architect, 13 Victoria St., Toronto, Ont.
126. Simeon H. Janes, M.A., Toronto, Ont. **A E**
127. W. R. Head, Hyde Park, Chicago, Ill.
128. G. C. Creelman, Acting Prof. of Biology, Agricultural College, Mississippi.
129. J. E. Graham, M.D., Toronto, Ont. **F**
130. W. S. Blackstock, 20 Homewood Ave., Toronto, Ont. **H**
131. Chas. Gibson, D.Sc, Chicago, Ill. **C**
132. Wm. H. Weldon, M.D., Chicago, Ill. **F H**
133. Orange Merwin, Bridgeport, Conn. **E**
134. Adam Capen Gill, Northampton, Mass. **E**
135. George Bruce Halsted, Prof. of Mathematics, University of Texas, Austin, Texas. **A**
136. Marcus P. Norton, 50 Broadway, New York.
137. Alexander D. Anderson, Washington, D.C.
138. John Uri Lloyd, Pharmaceutical Chemist, Court and Plum Streets, Cincinnati, Ohio. **C F**
139. Clinton Owen Bates, Prof. Chemistry in Coe College, Cedar Rapids, Iowa.
140. Mary Townsend Sharpless Schaffer, 1309 Arch St., Philadelphia, Pa. **F E**
141. John H. Talbutt, Lexington, Kentucky.
142. James F. W. Ross, M.D., C.M., Sherbourne and Wellesley Sts. Toronto, Ont.
143. Robert Allen Thompson, Mathematical Master, Hamilton College Institute, Hamilton, Ont. **A**
144. T. D. Ledyard, 4 Ontario Chambers, Toronto, Ont.
145. W. T. Jennings, Civil Engineer, Toronto, Ont. **D**
146. Byron Edmund Walker, Toronto, Ont. **E**
147. Norman B. Wood, Jr., 67½ University St., Cleveland, Ohio.
148. William H. Jenks, Brookville, Pa. **D**
149. Andrew Smith, F. R. C. V. S., Toronto, Ont. **F**
150. Arthur B. Willmott, Antioch College, Yellow Springs, Ohio
151. Amos R. Wells, Antioch College, Yellow Springs, Ohio.
152. A. M. Roseburgh, M.D., Church St., Toronto Ont.
153. George Ezechutt Abney, Toronto, Ont. **D**
154. W. E. Boustead, Toronto, Ont. **C**
155. J. W. Whitney, Chief Clerk U. S. Bureau of Statistics, Washington, D.C. **I**
156. Goldsmith B. West, Birmingham, Alabama. **E**
157. George Bruce Halstead, Prof. of Math., Univ. of Texas, Austin, Texas. **A**

158. Robert Bell, M.D., LL.D., Asst. Director Geological Survey of Canada, Ottawa. **F E**
159. Warren K. Moorehead, Smithsonian Institution, Washington, D.C. **H**
160. C. C. Mellor, Pittsburgh, Pa. **B**
161. Charles P. Benna, Schenectady, N.Y. **D**
162. C. H. Smyth, jr., Ph.B., Clinton, N.Y. **E**
163. E. Renel Smith, Skaneateles, N.Y.
164. Dr. George M. Dawson, Asst. Director Geological Survey of Canada, Ottawa. **E H**
165. James Foster, 13 King St. West, Toronto. **B**
166. Malcolm MacVicar, Chancellor MacMaster University, Toronto. **A**
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Thursday, August 29th.

167. James Ashley, Prof. of Political Economy in the University of Toronto, Toronto. **I**
168. Henry Symons, 4 Howard St., Toronto.
169. Arthur G. Clement, Supt. New York State Inst. for the Blind.
170. W Theophilus Stuart, 197 Spadina Ave., Toronto. **C**
171. Mrs. Helen R. Taylor, 230 Parliament St., Toronto.
172. Frank Julian, Chicago, Ill. **C**

LIST OF MEMBERS AND ASSOCIATES

IN ATTENDANCE AT THE MEETING.

[Additional arrivals will be given in the Programme for each day.]

Tuesday, August 27th.

Number of Register and Badge.	City Address.
1. T. C. Mendenhall, Washington, D.C.....	Queen's Hotel.
2. F. W. Putnam, Cambridge, Mass.	Queen's Hotel.
3. Charles C. Abbott, Trenton, N.J.....	Queen's Hotel.
4. James Loudon, Toronto.....	83 St. George St.
5. Charles Carpmael, Toronto	Dale Ave.
6. James D. Dana, New Haven, Conn.....	Queen's Hotel.
7. Sir Daniel Wilson, Toronto.....	46 St. George St.
8. C. A. White, Washington, D.C.....	Queen's Hotel.
9. Henrietta L. T. Wolcott, Dedham, Mass	467 Spadina Ave.
10. J. J. Stevenson, Univ. of City of New York....	Queen's Hotel.
11. Samuel Calvin, Iowa City	Metropole Hotel.
12. W. M. Beauchamp, Baldwinsville, N.Y.....	Metropole Hotel.
13. N. H. Winchell, Minneapolis.....	
14. Charles B. Gibson, Chicago	576 Church St.
15. H. D. Garrison, Chicago	Walker House.
16. Herman L. Fairchild, Rochester, N.Y.....	29 Grange Ave.
17. Mrs. H. L. Fairchild, Rochester, N.Y.....	29 Grange Ave.
18. Daniel S. Martin, New York.....	29 Grange Ave.
19. A. E. Douglass, New York.....	Rossin House.
20. Edward Hart, Easton, Pa.....	Rossin House.
21. Mrs. Edward Hart, Easton, Pa.....	Rossin House.
22. H. W. Wiley, Washington, D.C.....	Rossin House.
23. Mrs. Nellie S. Kedzie, Manhattan, Kan.....	Queen's Hotel.
24. E. Lewis Sturtevant, South Framingham, Mass..	Queen's Hotel.
25. T. J. Burrill, Champaign, Ill.....	79 Shuter St.
26. Charles H. Smith, Austin, Tex.....	333 Church St.
27. William Frear, State College, Pa.....	Queen's Hotel.

28. Fred. V. Coville, Washington, D.C. Queen's Hotel.
29. Horatio N. Chute, Ann Arbor, Mich. 44 Hayden St.
30. George L. English, Philadelphia, Pa. 580 Church St.
31. M. A. Scovell, Lexington, Ky. Rossin House.
32. Edward Goldsmith, Philadelphia, Pa. Club.
33. A. W. Vogdes, Fort Hamilton, N.Y. Har. Queen's Hotel.
34. Mrs. A. W. Vogdes, Fort Hamilton, N.Y. Har. Queen's Hotel.
35. A. J. Cook, Agricultural College, Mich. 31 College Ave.
36. Benjamin W. Snow, Ithaca, N.Y.
37. A. S. Tiffany, Davenport, Iowa International Hotel.
38. John A. Myers, Morgantown, W. Va. Rossin House.
39. H. Carrington Bolton, New York Queen's Hotel.
40. I. C. White, Morgantown, W. Va. Queen's Hotel.
41. B. E. Fernow, Washington, D.C. Rossin House.
42. John C. Branner, Little Rock, Ark. Queen's Hotel.
43. N. C. Husted, Tarrytown-on-Hudson, N.Y. Walker House.
44. William H. Dall, Washington, D.C. Queen's Hotel.
45. H. H. Nicholson, Lincoln, Neb. Queen's Hotel.
46. David F. Day, Buffalo, N.Y. Queen's Hotel.
47. Mrs. David F. Day, Buffalo, N.Y. Queen's Hotel.
48. Robert T. Hill, Austin, Tex. Queen's Hotel.
49. Mrs. Robert T. Hill, Austin, Tex. Queen's Hotel.
50. Elroy M. Avery, Cleveland, O. Queen's Hotel.
51. William L. Dudley, Nashville, Tenn. Queen's Hotel.
52. D. W. Prentiss, Washington. Queen's Hotel.
53. C. Leo Mees, Terre Haute Ind. Queen's Hotel.
54. Miss Ella Eaton, Northampton, Mass.
55. G. Frederick Wright, Oberlin, Ohio. 86 Charles St.
56. P. N. Schuyler, Bellevue, Ohio Walker House.
57. James Lewis Howe, Louisville, Kentucky 25 Murray St.
58. Miss Katie M. Dudek, New York 29 Grange Ave.
59. Jeannette B. Greene, New York Lake View House.
60. J. C. Arthur, La Fayette, Ind.
61. R. C. Kedzie, Lansing, Mich. Queen's Hotel.
62. Samuel W. Very, Annapolis, Md. Keachie's Hotel.
63. G. N. Merryweather, Cincinnati, O. Walker House.
64. G. C. Broadhead, Columbia, Mo. Walker House.
65.
66. L. O. Howard, Washington, D.C.
67. Mrs. Esther Herrman, New York Queen's Hotel.
68. Edgar L. Larkin, Galesburg, Ill.
69. Mrs. J. R. Dodge, Washington, D.C. Queen's Hotel.
70. J. Richards Dodge, Washington, D.C. Queen's Hotel.

71. John B. Tweedale, St. Thomas, Ont.....
72. William Saunders, Ottawa, Ont.....Rossin House.
73. Walter F. Ferrier, New Brunswick, N.J.....174 Carlton St.
74. William H. Seaman, Washington, D.C.....40 Ann St.
75. Thomas Taylor, Washington, D.C.....11 Linden St.
76. D. H. Oppenheim, New York,... ..Queen's Hotel.
77. Mrs. S. Oppenheim, New YorkQueen's Hotel.
78. W. J. Beal, Agricultural College, Mich.....31 Avenue St.
79. Mrs W. J. Beal, Agricultural College, Mich...31 Avenue St.
80. Timothy F Allen, New York.....Queen's Hotel.
81. P. R. Hoy, Racine, Wis.....24 Ann St.
82. W. H. Ellis, Toronto, Ont.....University College.
83. G. W. Lehmann, Baltimore, Md.....Queen's Hotel.
84. Mrs G. W. Lehmann, Baltimore, Md.....Queen's Hotel.
85. William R. Lazenby, Columbus, O.....Queen's Hotel.
86. A. P. S. Stewart, Lincoln, Neb.....24 Ann St.
87. Mrs. A. P. S Stewart, Lincoln, Neb.....24 Ann St.
88. George C. Caldwell, Ithaca, N.Y....."The Grange."
89. R. T. Colburn, Elizabeth, N.Y.....
90. Mrs. R. T. Colburn, Elizabeth, N.Y.....
91. J. H. Kedzie, Evanston, IllQueen's Hotel.
92. Mrs. J. H. Kedzie, Evanston, Ill.....Queen's Hotel.
93. O. Chanute, Chicago, Ill.....Queen's Hotel.
94. W. J. McGee, Washington, D.C... ..Rossin House
95. Alexander Winchell. Ann Arbor, Mich.....Walker House.
96. J. F. Cowell, Buffalo, N.YWalker House.
97. Charles E. Bessey, Lincoln, Neb.....31 College St.
98. F. Lamson Scribner, Knoxville, Tenn30 King St.
99. Eugene E. Fish, Buffalo, N.Y.....Walker House.
100. Mary A. Booth, Longmeadow, Mass.....
101. W. Le Conte Stevens, Brooklyn, N.Y.....Queen's Hotel.
102. Archibald Blue, Toronto, Ont.....11 Linden St.
103. E. W. Hyde, Cincinnati, O.Palmer House.
104. Angelo Heilprin, Philadelphia, Pa.....Rossin House.
105. Thomas Meehan, Philadelphia, Pa.....Queen's Hotel.
106. A. L. Arey, Rochester, N.Y.....10 North St.
107. James T. B. Ives, Toronto.....429 Spadina Ave.
108. Mrs. A. L. Arey, Rochester, N.Y.10 North St.
109. William Jay Youmans, New YorkArlington Hotel.
110. Mrs. Celia G. Youmans, Mount Vernon, N.Y..Arlington Hotel
111. William R. Pedrick, Lawrence, Mass.....31 Avenue St.
112. Eleanor B. Pedrick, Lawrence, Mass.....31 Avenue St.
113. Martha M. Barker, Lowell, Mass.....31 Avenue St.

114. W. O Atwater, Washington, D.C..... Queen's Hotel.
115. Amos W. Butler, Brookville, Ind..... Walker House.
116. Mrs. A. W. Butler, Brookville, Ind..... Walker House.
117. Henry S Carhart, Ann Arbor, Mich..... Walker House.
118. John B. Smith, New Brunswick, N.J..... Keachie's Hotel
119. W. H. Walmsley, Philadelphia, Pa..... Rossin House.
120. James N. Baxter, Brooklyn, N.Y..... Rossin House.
121. Mary B. Moody, New Haven, Conn.....
122. Arthur E. B. Moody New Haven, Conn.....
123. Bushrod W James, Philadelphia, Pa..... Queen's Hotel
124. John Collett, Indianapolis, Ind..... Rossin House
125. J E. Denton, Hoboken, N.J..... 383 Church St.
126. Miss H. A. Kittredge, North Andover, Mass.. Queen's Hotel.
127. Miss C. A. Watson, Salem, Mass..... Queen's Hotel.
128. Thomas D. Robertson, Rockford, Ill..... Queen's Hotel.
129. Mrs. Thomas D. Robertson, Rockford Ill..... Queen's Hotel.
130. C. A. Hirschfelder, Toronto.....
131. George Lincoln Goodale, Cambridge, Mass..... Queen's Hotel.
132. George F. Barker, Philadelphia, Pa..... Queen's Hotel.
133. Mrs. George F. Barker, Philadelphia, Pa..... Queen's Hotel.
134. Miss Clara T. Barker, Philadelphia, Pa..... Queen's Hotel.
135. James Hall, Albany, N.Y..... Queen's Hotel.
136.
137. Charles S. Hill, Washington, D.C..... Queen's Hotel.

Wednesday, August 28th.

138. Chas H. Chandler, Ripon, Wis..... Revere House.
139. L. W. Bailey, Frederickton, N. B..... Arlington.
140. Francis Laird Stewart, Murraysville, Pa..... Walker House.
141. Geo. C. Comstock, Madison, Wis..... Queen's Hotel.
142. Alan Macdougall, Toronto, Ont..... 30 Adelaide St. E.
143. Charles M. Knight, Akron, O..... Walker House.
144. C. Canby Balderston, Westtown, Pa..... Walker House.
145. Frank E. Emery, Geneva, N.Y..... 207 College St.
146. Wooster Woodruff Beman, Ann Arbor, Mich.. 29 Grange Ave.
147. Robert B. Warder, Washington, D.C..... 15 Division St.
148. Byron D. Halsted, New Brunswick, N.J..... 31 College Ave.
149. Joseph F. James, Washington, D.C..... Walker House.
150. Mrs. Joseph F. James, Washington, D.C..... Walker House.
151. Rev. Corliss B. Gardiner, Rochester, N.Y.... 31 Avenue St.
152. Edward P. Thompson, Beaver Falls, Pa.....

153. H. T. Eddy, Cincinnati, O. Palmer House.
154. Charles B. Thwing, Evanston, Ill. 246 Jarvis St.
155. Wm. Dawson, Montreal, Que. 46 St. George St.
156. Wm. Harkness, Washington, D.C. Rossin House.
157. Ira Remsen, Baltimore, Md. Rossin House.
158. W. A. Noyes, Terre Haute, Ind. 239 Beverley St.
159. Chas. D. Walcott, Washington, D.C. 429 Church St.
160. H. W. Henshaw, Washington, D.C. Queen's Hotel.
161. Douglas H. Campbell, Detroit, Mich. Queen's Hotel.
162. E. H. Preswick, Ithaca, N.Y. Albion Hotel.
163. Mrs. F. W. Putnam, Cambridge, Mass. Queen's Hotel.
164. Miss Ethel A. F. Putnam, Cambridge, Mass. Queen's Hotel.
165. Henry S. Williams, Ithaca, N.Y. 429 Church St.
166. Rev. Chas. J. S. Bethune, Port Hope, Ont. . . . 184 College Ave.
167. Frank Leverett, Madison, Wis. Albion Hotel.
168. F. W. Clarke, Washington, D.C. Queen's Hotel.
169. Louis C. Wurtele, Actondale, Que. 96 Bellevue Ave.
170. Mrs. L. C. Wurtele, Actondale, Que. 96 Bellevue Ave.
171. Edwin E. Howell, Rochester, N.Y. 29 Grange Ave.
172. Mrs. Edwin E. Howell Rochester, N.Y. . . . 29 Grange Ave.
173. Alexander Charles McKay, Toronto.
174. Andrew C. Lawson, Ottawa. 16 Washington Ave.
175. H. A. Newton, New Haven, Conn. Queen's Hotel.
176. Mrs. H. L. Smith, New York. 126 Baldwin St.
177. Alexander F. Chamberlain, Toronto. 36 Arthur St.
178. Andrew F. Hunter, Barrie, Ont. Lucas' House.
179. R. S. Woodward, Washington, D.C. Rossin House.
180. Mrs. R. S. Woodward, Washington, D.C. . . . Rossin House.
181. J. Burkitt Webb, Hoboken, N.J. 283 Church St.
182. Geo. H. Williams, Baltimore, Md. Queen's Hotel.
183. James H. Pearce, Toronto, Ont. 226 Beverley St.
184. Wm S. Rogers, Waterville, Me. Queen's Hotel.
185. A. E. Dolbear, College Hill, Mass.
186. S. J. Coffin, Easton, Pa. Elliot House.
187. Miss E. Angle, Lewisbury, Pa. Elliot House.
188. Mrs. W. D. Boardman, Roxbury, Mass. 32 John St.
189. J. H. Chapin, Meriden, Conn. Queen's Hotel.
190. Stephen S. Haight, New York. 94 McCaul St.
191. Mrs. Stephen S. Haight, New York. 94 McCaul St.
192. Miss Mary Evelyn Haight, New York. 94 McCaul St.
193. Samuel Carleton Haight, New York. 94 McCaul St.
194. J. R. Eastman, Washington, D.C. Queen's Hotel.
195. Mrs. J. R. Eastman, Washington, D.C. Queen's Hotel.

196. Ernest Merritt, Ithaca, N Y.....239 Beverley St.
197. A. R. Crandall, Lexington, Ky.....Rossin
198. Horace C Hovey, Bridgeport, Conn.....Koachie's Hotel.
199. Homer T. Fuller, Worcester, Mass.....Rossin
200. Mrs. H. T. Fuller, Worcester, Mass.....Rossin
201. Charles S. Howe, Cleveland, Ohio.....Rossin House.
202. Walter Hough, Washington, D.C.25 Murray St.
203. John J. Mackenzie, Toronto, Ont222 Sherbourne St.
204. C H. McLeod, Montreal, Que432 Jarvis St.
205. Miss Nellie B. West, New YorkLakeview Hotel.
206. W. H. Hollinshead, Nashville Town.....13 St. Patrick St.
207. Charles W. Hargitt, Oxford, OhioWalker House.
208. James Fletcher, Ottawa178 St. Patrick St.
209. J. Owen Dorsey, Takoma Park P.O., D.C . 25 Murray St.
210. Benjamin Lord, New York.....Queen's.
211. Mrs Benjamin Lord, New York.....Queen's.
212. G K. Gilbert, Washington, D.CQueen's.
213. Edmund O. Hovey, Waterbury, Conn.....25 Murray St.
214. George Bryce, Winnipeg, ManThe Pines, Davenp't.
215. Frank T Shutt, Ottawa, Ont....."Rosedale Cottage."
216. P H. Bryco, M D., Toronto.....
217. E D. Preston, Washington, D.C.....350 King St.
218. Edward Dummer, Boston, Mass.....383 Church St.
219. Mrs. Edward Dummer, Boston, Mass383 Church St.
220. Rollin D Salisbury, Beloit, Wis.Queen's.
221. J. Francis Williams, Salem, N.Y.....Queen's.
222. H. H. Lyman, Montreal, QuebecQueen's.
223. George Iles, New York.....Elm Avenue.
224. R. A. F. Penrose, Little Rock ArkQueen's.
225. Wm. H. Hale, Albany, New York.....236 Adelaide St.
226. Harrison Garman, Lexington, Ky.....31 College St.
227. Romyn Hitchcock, Washington, D C.....Queen's.
228. Mrs. Romyn Hitchcock, Washington, D.C.....Queen's.
229. Mrs. G. K. Baldwin, Detroit, Mich.....Rossin.
230. Mrs. L. H. Trowbridge, Detroit, Mich.....Rossin.
231. N. L. Britton, New YorkQueen's.
232. Mrs. N. L. Britton, New York.....Queen's.
233. Miss H. Lousie Britton, New York.....Queen's.
234. Miss Mary A. Knight, New York.....Queen's.
235. Miss Millie Timmerman, New York.....Queen's.
236. M. B. Waite, Washington, D.C.....
237. B. T. Galloway, Washington, D.C.....Rossin House.
238. James T. Lusk, Marrietta, Ohio.....

239. Charles Schaffer, Philadelphia, Pa. Rossin House.
240. Mrs. Charles Schaffer, Philadelphia, Pa. Rossin House.
241. John McLean, Moosejaw, N.W.T.
242. Luther M. Donaldson, Nashville, Tenn.
243. Edward W. Morley, Cleveland, Ohio. Queen's Hotel.
244. Albert A. Prescott, Ann Arbor, Mich. Queen's Hotel.
245. Thomas Joseph Workman Burgess, Hamilton, Ont 56 Henry St.
246. Albert S. Bickmore, New York. Queen's Hotel.
247. Edward L. Nichols, Ithaca.
248. Clarence M. Weed, Columbus, Ohio 31 College St.
249. J. F. Whiteaves, Ottawa, Ont 16 Grosvenor St.
250. Marcus Benjamin, New York Rossin House.
251. C. H. Hitchcock, Hanover, N.H. 483 Church St.
252. Miss Maria P. Hitchcock, Hanover, N H. 383 Church St.
253. A. Isabel Mulford, Orange, N.J. 79 Shuter St.
254. C. A. Waldo, Terre Haute, Ind. 239 Beverley St.
255. Henry H. Wing, Ithaca, N.Y. Walker House.
256. Thomas Gray, Terra Haute, Ind. 239 Beverley St.
257. Mrs. E. O. Hovey, Waterbury, Conn. 25 Murray St.
258. Wm. Deer Boardman, Roxbury, Mass. 32 John St.
259. James Mills, Guelph, Ont. Rossin House.
260. Edgar G. Miller, Baltimore, Md. Queen's Hotel.
261. Robert Hay, Junction City, Kan. Palmer House
262. Frank Fitz Payne, Toronto, Ont.
263. Charles B. Atwell, Evanston, Ill. 21 Carlton St.
264. J. M. Rice, Annapolis, Md. Queen's.
265. Henry James, Toronto, Ont. 204 Spadina Ave.
266. E. N. S. Ringueberg, Lockport, N.Y.
267. W. R. Warner, Cleveland, Ohio. Queen's.
268. Jefferson E. Kershner, Lancaster City, Pa. Queen's.
269. T. H. McBride, Iowa City, Ia. Palmer.
270. Mrs. T. H. McBride, Iowa City, Ia. Palmer.
271. Arch. B. Macallum, Toronto.
272. John Perrin, Montreal, Que.
273. Cady Staley, Cleveland, O. Queen's.
274. Archibald Hope Young, Toronto, Ont.
275. Mrs. W. A. Rogers
276. James Gayford Witton, Toronto, Ont. 118 D'Arcy St.
277. Taylor Reed, Princeton, N. J. Queen's.
278. Joseph Cummings, Evanston, Ill. Queen's.
279. Henry Farquhar, Washington, D.C.
280. Mrs. H. Farquhar, Washington, D.C.
281. John Lucas, Philadelphia, Pa. "Ernesleigh."

282. Mrs. John Lucas, Philadelphia, Pa....."Ernesleigh."
283. Fred. Hoffmann, New York.....Queen's.
284. Albert Lucas, Philadelphia, Pa.....
285. Mrs. L. E. Holden Cleveland, O.....Queen's.
286. Persifor Frazer, Philadelphia, Pa.....Queen's Hotel.
287. H. P. Cushing, Cleveland, O.....Queen's Hotel.
288. Joseph J. Walton, Philadelphia, Pa.....Walker House.
289. G. W. Hough, Evanston, Ill.....Queen's Hotel.
290. Edward S. Morse, Salem, Mass.....Prof. R. R. Wright's.
291. G. P. Thruston, Nashville, Tenn.....Rossin House
292. James F. Kemp, Ithaca, N.Y.....429 Church St
293. A. V. E. Young, Evanston, Ill.....Walker House
294. Leon P. Kinnicott, D. Se Worcester Poly. Inst., Rossin House.
295. Mrs. Leon. P. Kinnicott, Worcester Poly. Inst., Rossin House.
296. W. H. Merritt40 St. George St.
297. Garrick Mallery, Washington, D.C.....Queen's Hotel.
298. Mrs. Garrick Mallery, Washington, D.C.....Queen's Hotel.
299. John Galbraith, Prof. of Engineering.....62 St. Mary's St.
300. Thos. M. Jackson, C. E., D. Se Morgantown, W Va., Queen's Hotel.
301. Mrs. John C. Branner, Little Rock, Ark.....Queen's Hotel.
302. Albert Lufkin, Newton, Iowa.....159 Simcoe St.
303. Mrs. F. Lufkin, Newton, Iowa.....159 Simcoe St.
304. Miss L. Lufkin, Newton, Iowa.....159 Simcoe St
305. Miss N. Lufkin, Newton, Iowa.....159 Simcoe St.
306. Harris J. Ryan, Ithaca, N.Y.....239 Beverley St.
307. Prof. R. B. Fulton, University, Miss.....Walker House
308. W. W. Campbell, Ann Arbor, Mich.....29 Grange Ave.
309. Dr. G. S. Ryerson, Toronto.....60 College Ave
310. Prof. R. R. Wright, Toronto.....
311. Alex. Ziwet, Ann Arbor, Mich.....29 Grange Ave.
312. S. F. Emmons, Washington, D.C.....
313. M. A. Veeder, Lyons N.Y.....Rossin House.
314. E. W. Claypole, Akron, Ohio.....
315. Katharine B. Claypole, Akron, Oh o.....
316. Prof. Geo D. Olds, Rochester, N.Y.....29 Grange Ave.
317. Mrs. G. D. Olds, Rochester, N.Y.....29 Grange Ave.
318. Mar. Leland, Rochester, N.Y.....29 Grange Ave.
319. Mrs. Albert S. Bickmore, New York.....Queen's Hotel.
320. Prof. E. H. S. Bailey, Lawrence, Kan.....Elliott House.
321. F. P. Leavenworth, Haverford College, Pa....Albion Hotel.
322. Mrs. F. P. Leavenworth, Haverford College, Pa. Albion Hotel.
323. Miss Esther Leavenworth Havenford Col, Pa.. Albion Hotel.
324. Prof. R. H. Ward, Troy, N. Y.....Palmer House.

325. James T. Hoyt, New York.....The Arlington.
 326. Mrs. James T. Hoyt, New York.....The Arlington.
 327. W. M. Dudley, Ithaca, N.Y.....Rossin House.
 328. John W. Langley, Pittsburg, PaArlington.
 329. Mrs. J. W. Langley, Pittsburg, PaArlington.
 330. Prof. Mortimer E. Cooley, Ann Arbor, Mich ..Arlington.
 331. Mrs. M. E. Cooley, Ann Arbor, Mich . . .Arlington.
 332. F. W. Kuhne, Fort Wayne, Ind.....79 Shuter St.
 333. Mrs F. W. Kuhne, Fort Wayne, Ind.....79 Shuter St.

Thursday, August 29th.

334. Atreus Wanner, York, Pa.....Walker House.
 335. C. Fessenden, Napanee, Ont126 Seaton St.
 336. DeCost Sr ith, Skaneateles, N.Y.....Rossin House.
 337. Mrs. E. R. Smith, Skaneateles, N.Y.....Rossin House.
 338. Miss C. M. Smith, Skaneateles, N.Y.....Rossin House.
 339. Mr. E. B. Reed, London, Ont.....98 St Patrick St.
 340. T. Griswold Comstock, St. Louis, Mo.Queen's Hotel.
 341. W. B. Clark, Baltimore, Md.....Queen's Hotel.
 342. F. D. Adams, Montreal, Que.....Queen's Hotel.
 343. Miss Charlotte C. Barnum, New Haven, Conn..Queen's Hotel.
 344. Mary B. Dewing, Stamford, ConnQueen's Hotel.
 345. Stephen Bush, Waterford, N.Y... ..Palmer House.
 346. Mrs. Stephen Bush, Waterford, N.Y.. . .Palmer House..
 347. T. C Chamberlin, Madison, Wis.....Queen's Hotel.
 348. G. B. Halsted, Austin, TexasRossin House.
 349. Dr. A M. Rosebrugh, Toronto, Ont.....131 Church St.
 350. Charles F. Rand, M.D., Batavia, N.Y.....Queen's Hotel.
 351. W. H. Jenk, Brookville, Pa.....Elliot House.
 352. Mrs. J. G. Dolley, Albion, N.Y.....128 Baldwin St.
 353. Emma R. McGee, Farley, IowaSt James.
 354. W. K. Moorehead, Washington, D.C.....38 Rossin House.
 355. J. C Hamilton, Toronto
 356. E. B. Frost, Hanover, N.H.....Rossin House.
 357. E. H. Roberts, Oxford, MissWalker House.
 358. D. R Keys. Toronto
 359. Norman B. Wood, Cleveland, Ohio.....94 Baldwin St.
 360. E. B. Shuttleworth, Toronto.....220 Sherbourne St.
 361. J. E. McDougall, Toronto.... .121 Carlton St.
 362. C. S. Street, Roxbury, Mass.....32 John St.
 363. G. B. Abrey, Toronto23 Beaconsfield Av.

364. Charles P. Benns, Schenectady, N.Y. Walker House.
365. Thomas Ewing, Jr., Washington, D.C. { Cor. Queen's Park
and Joseph St
366. W. H. Bristol, Hoboken, N.J.
367. E. Renel Smith, Skaneateles, N.Y. Rossin House.
368. Mrs. Geo. H. Williams, Baltimore, Md. Queen's Hotel.
369. Mrs. Jas. Lewis Howe, Louisville, Ky 25 Murray St.
370. W. S. Blackstock, Toronto 20 Homewood Ave.
371. P. J. Farnsworth, Clinton, Iowa
372. W. R. Head, Chicago, Ill.
373. A. C. Gill, Northampton, Mass. 25 Murray St.
374. Dr. Robert Bell, Ottawa, Can. 75 Peter St.
375. William Houston, Toronto. Governm't Library.
376. R. A. Thompson, Hamilton, Ont. 112 Robert St.
377. Prof. Chas. F. Cook, Evanston, Ill. Rossin House.
378. Gustav Lindenthal, Pittsburgh, Pa. Walker House.
379. Wm. A. Burman, Winnipeg, Man. Continental Hotel.
380. G. C. Creelman, Mississippi 101½ Bleeker St.
381. Amos R. Wells, Yellow Springs, Ohio.
382. W. E. Boustead, Toronto 200 Jarvis St.
383. Dr. W. J. Hoffman, Washington, D.C. Rossin House.
384. Mrs. W. J. Hoffman, Washington, D.C. Rossin House.
385. Retta Lyons, New Orleans, La. Rossin House.
386. Ella Smith, Hagerstown, Md. Rossin House.

AMERICAN ASSOCIATION

FOR THE

ADVANCEMENT OF SCIENCE.

Programme for Monday, September 2nd

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Secretary—W. MCCULLOCH.

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T. B. Browning, C. R. W. Biggar, H. Brock, D. Creighton, John Cameron, E. Farrar, W. F. Maclean, J. R. Robertson, A. S. Irving, W. G. Eakins, C. W. Taylor, Rev. Dr. Dewart.

LADIES' COMMITTEE.

Mrs. G. W. Allan, Mrs. W. T. Aikins, Mrs. Ashley, Mrs. E. Blake, Mrs. J. A. Boyd, Mrs. Body, Mrs. S. H. Blake, Mrs. A. Boswell, Mrs. Jas. Bain, Mrs. G. S. C. Bethune, Mrs. R. H. Bethune, Mrs. W. H. Beatty, Mrs. C. W. Bunting, Mrs. Clarke, Mrs. Arthur Cox, Mrs. Clarkson, Mrs. A. M. Cosby, Mrs. D. B. Dick, Mrs. P. H. Drayton, Mrs. E. K. Dodds, Mrs. W. H. Ellis, Mrs. W. H. Fraser, Mrs. Major Foster, Mrs. H. R. Fairclough, Mrs. Gailbraith, Mrs. C. S. Gzowski, Mrs. J. E. Graham, Mrs. Hutton, Mrs. Thomas Hodgins, Mrs. John Hoskin, Mrs. R. A. Hoskins, Mrs. Jas. Hedley, Miss May Jones, Mrs. W. H. Howland, Mrs. Loudon, Mrs. S. H. Kellogg, Mrs. T. Kirkland, Mrs. D. R. Keys, Mrs. Henry Langley, Mrs. Thomas Langton, Mrs. J. F. McCurdy, Mrs. L. McFarlane, Mrs. Thomas McGaw, Lady Macpherson, Mrs. Oliver Mowat, Mrs. E. A. Meredith, Mrs. Alexander Manning, Mrs. J. Herbert Mason, Mrs. William McDonald, Mrs. James MacLennan, Mrs. William Mulock, Mrs. A. Marsh, Miss Mickle, Miss Sallie Mickle, Mrs. Alan Macdougall, Mrs. H. W. Merritt, Mrs. Hugh Neilson, Mrs. D. A. O'Sullivan, Mrs. W. Oldright, Mrs. G. W. Ross, Mrs. G. M. Rae, Mrs. G. H. Robinson, Mrs. W. C. R. Street, Mrs. Sweny, Mrs. B. Spencer, Mrs. J. E. Berkley-Smith, Mrs. G. E. Shaw, Mrs. Skae, Mrs. John Taylor, Mrs. F. H. Torrington, Miss Wilson, Mrs. B. E. Walker, Mrs. A. H. Wright, Mrs. R. R. Wright.

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ANNOUNCEMENT OF THE PERMANENT SECRETARY.

Members will please call at the office of the Permanent Secretary as soon as possible after arrival, to receive their members' tickets. Members will register at the table of the Local Committee and receive their badges *after* obtaining their tickets.

Attention is directed to the following rule relating to members families :

“ Every member of the Association shall have the privilege of registering members of his family, not including men over twenty-one years of age, by paying the sum of three dollars for each person so registered, and shall receive for them specific badges which will entitle the holder thereof to such privileges as may be extended to the members generally by the Local Committee for the meeting.”

All assessments and admission fees must be paid at the office of the Permanent Secretary, and the assessment for the meeting must be paid before registering and receiving the Association badge.

Newly elected members will obtain their certificates of membership at the office of the Permanent Secretary, upon payment of the admission fee of \$5.00 and assessment of \$3.00.

Members will please report any change of permanent address, or the decease of other members, at the office of the Permanent Secretary.

Subscriptions for the Toronto volume of “Proceedings” will be taken at the office of the Permanent Secretary; and subscriptions are solicited from the friends of the Association, and from such members as wish to obtain duplicate copies of the volume. Every person subscribing \$1.50 or more will receive a copy of the volume as soon as published.

The volumes of the “Proceedings” of the Association can be obtained from the Permanent Secretary, at the price of \$1.50 per volume ; or any member wishing for ten or more volumes in order to complete a set, may obtain them at \$1.00 per volume. The volumes may be had bound in cloth at the extra price of 50 cents each, or in half Morocco at the extra

price of \$1.00 each. Uniform cloth covers for the volumes will be furnished by mail at 30 cents each, or by express at 25 cents each. Samples can be seen and orders given at the office. The "Memoir on Fossil Butterflies," 4to, 1875, by S. H. Scudder, published by the donation of Mrs. Elizabeth Thompson, will be furnished at \$2.00 a copy, or at \$3.50 bound in half Morocco. "The Transactions of the American Association of Geologists and Naturalists," 1 vol., 8vo., 1843, bound in cloth, can be obtained at \$3.00 a copy, or bound in half Morocco, uniform with the "Proceedings," for \$4.00.

The CLEVELAND VOLUME OF PROCEEDINGS was issued in July and has been sent from the Salem office to all members who paid the Cleveland assessment previous to August 20th. Those paying since that date, and those who pay back assessments at the present meeting, will receive the volumes to which they are entitled after the adjournment of this meeting

MEMBERS, FELLOWS, LIFE MEMBERS AND PATRONS.

ART. 3. Any person may become a member of the Association upon recommendation in writing by two members or fellows, and election by the Council.

(Blank forms for recommendation to membership can be had in the Local Committee Room. Recommendations should reach the Secretary of the Council as early as possible each day. *Those received after 9 a.m. cannot be acted upon until next day.*)

ART. 5. Any person paying to the Association the sum of one thousand dollars shall be classed as a Patron, and shall be entitled to all the privileges of a member, and to all its publications.

ART. 34. The admission fee for members shall be \$5.00, in addition to the annual assessment. (These must be paid for the meeting at which the election is announced.) On the election of any member as a fellow an additional fee of \$2.00 shall be paid.

ART. 35. The annual assessment for members and fellows shall be \$3.00.

ART. 36. Any member or fellow who shall pay the sum of fifty dollars to the Association, at any one time, shall become a Life Member, and as such shall be exempt from all further assessments, and shall be entitled to the Proceedings of the Association. All money thus received shall be invested as a permanent fund, the income of which, during the life of the member, shall form a part of the general fund of the Association; but

after his death, shall be used only to assist in original research, unless otherwise directed by the unanimous vote of the Council. (New members becoming Life Members must pay the admission fee of \$5.00.)

ART. 37. All admission fees and assessments must be paid to the Permanent Secretary (or his Assistant), who shall give proper receipts for the same.

PAPERS.

ART. 31. Authors must prepare their papers or abstracts ready for the press, and these must be in the hands of the Secretaries of the Sections before the final adjournment of the meeting, otherwise only the titles will appear in the printed volume. The Council shall have power to order the printing of any paper by abstract or title only.

ANNOUNCEMENTS OF THE LOCAL COMMITTEE.

ROOMS.

By the courtesy of the authorities the meetings of the Association will be held in the University Buildings, the School of Practical Science, and Association Hall.

The opening Session and all the morning General Sessions will be held in the University Convocation Hall. The final General Session on Tuesday evening will be held in Association Hall.

SECTION ROOMS.

Sections A, B, D, E, H, I, will meet in the main University Building in rooms Nos. 4, 8, 5, 7, and in Convocation Hall on the ground floor, and room on the west end second floor.

Section C will meet in the School of Practical Science.

Section F will meet in the new Biological Building.

The Council will meet in the University Senate Chamber.

OFFICES.

The offices of the Permanent and Local Secretaries are in Room 2, first door left of the entrance, University Building.

POST OFFICE, TELEGRAPH AND TELEPHONE.

The P.O. and Telegraph Offices are in Room 1, University Building.

The Great North Western Telegraph Co. will send free over its own lines, short social messages, when stamped by the Local Secretary. Such messages to the United States will accordingly be charged half the usual rates.

Telephone rooms will be found at the main entrance.

WRITING ROOM.

A writing room is provided adjacent to the Library, second floor of the University Building.

LADIES' ROOM.

Room on ground floor, University Building.

BADGES.

Members of the Association, and Associates, will register at the desk of the Local Secretary after they have obtained their assessment receipt from the Permanent Secretary. Each member and associate will then receive a badge stamped with the number corresponding the name printed in the daily list of arrivals. These badges will entitle the owner to all the privileges extended to the Association.

Special badges are prepared for the members of the Botanical and Entomological Clubs, which may be obtained from the officers of those clubs.

Special badges are also made for the Local Committee and its officers, and for representatives of the Press. These may be obtained of the Local Secretary.

The colors of the badges are as follows :

Membership—Coral.

Entomological Club—Dark Terra Cotta.

Botanical Club—Dark Green.

Local Committee—Blue.

The Press—Red.

LUNCH.

A lunch, free to all wearing the above badges, will be provided daily except on Saturday and Sunday in the Dining Hall at the north-west corner of the Quadrangle, Main Building.

HOTEL HEADQUARTERS.

The Ladies' Parlor at the Queen's is placed at the disposal of the ladies and gentlemen of the Association, and the Gentlemen's Parlor will be used by Committees and for an evening office.

RETURN TICKETS.

Get your railway certificates signed and stamped by the Secretary, Mr. W. R. Callaway. Office on right hand of main entrance.

EXCURSION TO THE HURONIAN COUNTRY.

Members and Associate Members of the Association who wish to join in a Geological Excursion to the Huronian Country after the adjournment of the General Session, on Tuesday night, are requested to give their names to the Secretary of Section E., or to Mr. W. R. Callaway of the R. R. Committee.

Train will leave Toronto at 11 o'clock Tuesday night, arrive at North Bay, 8.35 a.m. Wednesday. Breakfast at hotel. Leave for Sudbury at 9.55 a.m. Dinner on train. Arrive at Sudbury 1.12 p.m.; devote afternoon to vicinity. Breakfast at hotel 6.30 a.m. Thursday. Leave by special train for Onaping at 7.30 a.m.; examining rocks by the way, and arriving at Onaping at 7 p.m.

Returning, leave Onaping at 7.30 p.m., Thursday; reaching Toronto at 7.30 p.m. Friday.

THE TORONTO AMATEUR PHOTOGRAPHIC ASSOCIATION.

will be happy to place their rooms, in the Medical Council building, corner of Bay and Richmond streets, at the disposal of the members of the Association during their stay in town.

CLUBS.

The President and members of the Granite Club, 465 Church street, offer the privileges of the Club to the members of the Association during their visit to Toronto.

The President and members of the Royal Canadian Yacht Club offer the same privileges at their club house, on the Island. The steam launch leaves the foot of Lorne Street at the hour and half hour. Members of the Association will be taken over on production of their membership badge.

A GEOLOGICAL MAP.

of the Province of Ontario is ready for distribution, and can be obtained at the office of the Local Secretary.

MESSENGER SERVICE.

Messenger boys, who can be employed for any light service by payment of the customary fee, will be found at the P. O. and Telegraph room.

All botanists, members of the Association, are requested to Register at room 7, in the University Buildings, as soon as practicable after their arrival. They will be furnished with special badges.

The ordinary hour meetings of the Entomological Club of the Association will be held in the room assigned to them on Thursday, Friday, Monday and Tuesday, at 9 o'clock a. m.

CANADIAN INSTITUTE.

The Reading Room, Library and Museum of the Canadian Institute, 46 Richmond Street East, will be open to the members, daily, from 10 a. m. to 6 p. m.

RECEPTION BY CITY COUNCIL AND CITIZENS.

A garden party will be given by the City Council on Tuesday afternoon, September 3rd, in the grounds of Government House, by the kind permission of His Honor the Lieutenant-Governor of the Province.

MANITOBA INDUSTRIAL COLLECTION.

Members are invited to visit the collection of industrial and agricultural products of the Province of Manitoba, in the building at the corner of York and Front street.

OMNIBUSES

Will leave the Queen's Hotel, calling at the Rossin House, at 8.30, 9 and 9.30 for the University, returning between 5 and 6; fare for round trip, 25 cents.

[Special programmes will be issued every morning, except Saturday and Sunday.]

Programme for Monday, September 2.

Morning.

Meeting of the Council at 9 o'clock.

General Session from 10 to 10:15 o'clock.

Reports of Committees.

Resolutions from the Council.

Meeting of the Sections at 10:15 o'clock. *

Afternoon.

Meeting of the Sections from 2 to 5 o'clock.

Evening.

At 8 o'clock in the Pavilion, Horticultural Gardens, Dr. H. Carrington Bolton, of New York, will deliver a lecture entitled, "Four Weeks in the Desert of Mount Sinai," illustrated by projections of original photographs. This lecture is complimentary to the citizens of Toronto.

Meeting of the Nominating Committee at The Queen's, at 10 o'clock, to nominate officers for next year, and to suggest time and place for the next meeting of the Association.

SECTION A.—MATHEMATICS AND ASTRONOMY.

Vice-President—R. S. WOODWARD, of Washington.

Secretary—G. C. COMSTOCK, of Madison, Wis.

Member of the Council.

E. W. HYDE, of Cincinnati, Ohio.

Members of the Sectional Committee.

J. BURKITT WEBB, of HOBOKEN, N.J.

HENRY FARQUHAR, of Washington.

W. W. BEMAN, of Ann Arbor, Mich.

Member of the Nominating Committee.
 CHARLES S. HOWE, Cleveland, O.

Members of the Sub-committee on Nominations.

H. A. NEWTON, of New Haven, Ct.
 WILLIAM HARKNESS, of Washington.
 J. R. EASTMAN, of Washington.

PAPERS TO BE READ ON MONDAY.

9. The Peruvian Arc—30 min.—By E. D. Preston.
 180. New Arrangement for an Astigmatic Eye-piece—3 min.—By J. A. Brashear.
 181. The Jena Optical Glass—5 min.—By J. A. Brashear.
 175. The Centrifugal Catenary—15 min.—By J. Burkitt Webb.
 176. The Polar Tractrix—10 min.—By J. Burkitt Webb.
 177. A Precession Model—10 min.—By J. Burkitt Webb.
 182. The Hastings Achromatic Objective—5 min.—By J. A. Brashear.
 193. Annual Parallax of South 503—4 min.—By F. P. Leavenworth.
 102. Formula for the probability of any fact or occurrence about which any number of Witnesses may testify—10 min.—By J. E. Hendricks.
 136. On the Automatic Eclipsograph—15 min.—By David P. Todd.
 3. Method of finding Factors.—10 min. —By J. D. Warner.
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SECTION B.—PHYSICS.

Vice-President—H. S. CARHART, of Ann Arbor, Mich.

Secretary—E. L. NICHOLS, of Ithaca, N. Y.

Member of the Council.

W. A. ROGERS, of Waterville, Me.

Members of the Sectional Committee.

W. LE CONTE STEVENS, Brooklyn, N. Y.
 A. E. DOLBEAR, College Hill, Mass
 CHARLES CARPMAEL, Toronto.

Member of the Nominating Committee.

JAMES LOUDON, of Toronto.

Members of the Sub-Committee on Nominations.

E. W. MORLEY, Cleveland, Ohio.

C. H. McLEOD, Montreal.

T. C. MENDENHALL, Washington.

PAPERS TO BE READ ON MONDAY.

21. The Hydro-electric effect of stretching Metals—15 min.—By Carl Barus.
117. The determination of the amount of Rainfall—12 min.—By Cleveland Abbe.
18. Additional experimental proof of the constancy of the relative coefficients of expansion between Jessop's Steel and Bronze—between the limits of minus 5° and 95° Fahr.—5 min.—By Wm. A. Rogers.
139. Experiments in Duplex Telephony in 1883.—5 min.—By A. M. Rosebrugh.
212. Recent progress in Storage Batteries.—10 min.—By Geo. F. Barker.
170. A mode of suspension for Foucault's Pendulum.—5 min.—By R. B. Fulton.
192. A modification of the "Pascal's Vase" Experiment.—3 min.—By A. L. Arey.
15. Experiments for demonstrating that the force of a detonating explosion is exerted in all directions about the explosive center.—5 min.—By C. E. Monroe.
14. Effects of Electrostatic Discharges on Photographic Plates.—10 min.—By Thomas French, jr.
196. A Mountain Study of the Spectrum of Aqueous Vapor.—25 min.—By Charles S. Cook.
140. An Exhibition of Photographs, taken in 1864, of the Living Eye (a) The retinal vessels; (b) The retinal inverted image of an object placed in front of the eye.—8 min.—By A. M. Rosebrugh.
214. An exhibition of Photographs of the Fundus of the Eye of the cat taken while under the influence of Chloroform.—5 min.—By A. M. Rosebrugh.

SECTION C.—CHEMISTRY.

Vice-President—WILLIAM L. DUDLEY, of Nashville, Tenn.
Secretary—EDWARD HART, of Easton, Pa.

Member of the Council.

HARVEY W. WILEY, of Washington, D.C.

Members of the Sectional Committee.

H. H. NICHOLSON, of Lincoln, Neb.
 F. W. CLARKE, of Washington, D.C.
 IRA REMSEN, of Baltimore, Md.

Member of the Nominating Committee.

A. P. S. STUART, of Lincoln, Neb.

Members of the Sub-committee on Nominations.

H. C. BOLTON, of New York City.
 A. B. PRESCOTT, of Ann Arbor, Mich.
 W. A. NOYES, of Terre Haute, Ind.

PAPERS TO READ ON MONDAY.

30. A Method of Mounting Photographic Prints on Paper.—5 mins.—R. Hitchcock.
156. Succinylo-succinic Acid.—15 min.—Adolph Bayer, and A. W. Noyes.
157. Estimation of Bromine in presence of Chlorine.—10 min.—Albert B. Prescott.
130. On the Acquisition of Atmospheric Nitrogen by Plants.—20 min.—W. O. Atwater.
197. Food Preparation.—10 min.—Fred Hoffmann.
116. The Composition of Ontario Oats.—10 min.—C. C. James.

SECTION D.—MECHANICAL SCIENCE AND ENGINEERING.

Vice-President—JAMES E. DENTON, of Hoboken, N.J.

Secretary—W. R. WARNER, of Cleveland, Ohio.

Member of the Council.

CADY STALEY, of Cleveland, Ohio.

Members of the Sectional Committee.

O. CHANUTE, of Kansas City, Mo.

M. E. COOLEY, of Ann Arbor, Mich.

C. H. SMITH, of Austin, Texas.

Members of the Nominating Committee.

Members of the Sub-committee on Nominations.

J. GAILBRAITH, Toronto.

A. E. DOLBEAR, College Hill, Mass.

THOMAS GRAY, Terre Haute, Ind.

ADJOURNED FRIDAY AFTERNOON.

SECTION E.—GEOLOGY AND GEOGRAPHY.

Vice-President—CHARLES A. WHITE, of Washington.

Secretary—JOHN C. BRANNER, of Little Rock, Ark.

Member of the Council.

W. H. WINCHELL, of Minneapolis, Minn.

Members of the Sectional Committee.

ALEXANDER WINCHELL, of Ann Arbor, Mich.

H. L. FAIRCHILD, of Rochester, N. Y.

I. C. WHITE, of Morgantown, West Va.

Member of the Nominating Committee.

G. K. GILBERT, of Washington.

Members of the Sub-committee on Nominations.

C. D. WALCOTT, of Washington.

R. T. HILL, of Austin, Texas.

W. J. MCGEE, of Washington.

PAPERS TO BE READ ON MONDAY.

36. The Reality of a Level of no Strain in the Crust of the Earth.—30 min.—By E. W. Claypole.
44. The Geological Position of the Ogishke Conglomerate —30 min.—By Alexander Winchell.
38. The Origin of Gneiss and other Primitive Rocks.—15 min.—By Robt. Bell.
40. Observations on the Trap Ridges of the East Haven (Conn.) Region. —30 min.—By E. O. Hovey.
47. On a Possible Chemical Origin of the Iron Ores of the Kewatin in Minnesota.—20 min.—By N. H. Winchell and H. V. Winchell.
129. Notice of some Zircon Rocks in the Archæan Highlands of New Jersey.—8 min.—By F. L. Nason and W. F. Ferrier
138. Trap Dykes in the Region about Lake Champlain and the Adirondacks.—10 min.—By J. F. Kemp.
178. Field Studies of Hornblende Schist. —10 min.—By C. H. Hitchcock.
187. Remarks on the Cretaceans of Northern Mexico.—10 min.—By C. A. White

127. A Classification of the Topographic and Geologic Features of Texas, with remarks upon the Areal Distribution of the Geologic formations.—20 min.—By R. T. Hill.
123. The Eagle Flats—Formation and the Basins of the Trans-Pecos or Mountainous Region of Texas.—5 min.—By R. T. Hill.
124. The Ancient Volcanoes of Central Texas.—5 min.—R. T. Hill and E. T. Dumble.
125. The Geology of the Staked Plains of Texas, with a Description of the Staked Plains Formation.—5 min.—By R. T. Hill
126. The Geology of the Valley of the Upper Canadian from Tascosa, Texas, to the Tucumcarri Mountains, New Mexico, with notes on the age of the same.—10 min.—By R. T. Hill.

SECTION F.—BIOLOGY.

Vice-President—GEORGE L. GOODALE, of Cambridge, Mass.

Secretary—A. W. BUTLER, of Brookville, Ind.

Members of the Council.

W. H. DALL, of Washington, D.C.

Members of the Sectional Committee.

A. J. COOK, of Lansing, Mich.

T. J. BURRILL, of Champaign, Ill.

D. H. CAMPBELL, of Bloomington, Ind.

Member of the Nominating Committee.

W. J. BEAL, of Lansing, Mich.

Members of the Sub-committee on Nominations.

L. O. HOWARD, of Washington, D. C.

D. F. DAY, of Buffalo, N. Y.

C. E. BESSEY, of Lincoln, Neb.

PAPERS TO BE READ ON MONDAY.

154. A bacterial disease of Carnations—15 min.—By J. C. Arthur.
191. Revision of the United States Species of *Fuirena*—10 min.—Fred. V. Coville.
111. A suggestion concerning Scientific Work—15 min.—Wm. R. Dudley.

57. On the intentional importation of parasites and Natural Enemies of Insects Injurious to Vegetation—15 min.—C. V. Riley.
203. Preliminary Report on Reproductive Characteristics of Hydroid Endendrium sp.—5 min.—Chas. W. Hargitt.
204. Grasses of Roan Mountain—8 min.—F. Lawson Scribner.
55. The relation between temperature and the number of vertebrae in fishes.—10 min.—By D. S. Jordan.
155. A bacterial disease of Indian Corn.—15 min.—By T. J. Burrill.

SECTION H.—ANTHROPOLOGY.

Vice-President—GARRICK MALLERY, of Washington.

Secretary—W. M. BEAUCHAMP, of Baldwinsville, N. Y.

Member of the Council.

J O. DORSEY, of Washington.

Members of the Sectional Committee.

H. W. HENSHAW, of Washington.

C. C. ABBOTT, of Trenton, N. J.

JOSEPH JASTROW, of Madison, Wis.

Member of the Nominating Committee.

Wm. H. HALE, of Albany, N. Y.

Members of the Sub-committee on Nominations.

A. F. CHAMBERLAIN, of Toronto.

L. C. WURTELE, of Acton Vale, Quebec.

G. P. THRUSTON, of Nashville, Tenn.

PAPERS TO BE READ ON MONDAY

75. Algonkin Onomatology—35 min.—By A. F. Chamberlain.
90. Indian Personal Names—30 min.—By J. O. Dorsey.

79. Huron—Iroquois of the St. Lawrence and Lake Region—20 min.—
By D. Wilson.
- 83.—Gesture Language of Blackfoot Indians—15 min.—J. McLean.
- 72.—The African in Canada—40 min.—By J. C. Hamilton.
- 74.—Indian Burial in New York—23 min.—By W. M. Beauchamp.
- 87.—Portrait Pipe from Central America—15 min.—A. E. Douglas.
- 217.—Government of the Six Nations—40 min.—By O-ji-ja-tek-ha.
- 70.—Ancient Japanese Tombs and Burial Grounds—30 min.—Romyn Hitchcock.

SECTION I.—ECONOMIC SCIENCE AND STATISTICS.

Vice-President—CHARLES S. HILL, of Washington.

Secretary—J. R. DODGE, of Washington.

Member of Council.

Joseph CUMMINGS, Evanston, Ill.

Members of the Sectional Committee.

W. O. ATWATER, Middletown, Conn.

W. R. LAZENBY, Columbus, Ohio.

Lester F. WARD, Washington, D.C.

Member of the Nominating Committee.

Henry FARQUHAR, Washington, D.C.

Members of the Sub-committee on Nomination.

B. E. FERNOW, Washington, D.C.

Gustav LINDENTHALL.

Geo. ILES, Toronto.

PAPERS TO BE READ IN SECTION I ON MONDAY.

147. Development of Trade Channels.—30 min.—Henry C. Taylor.
142. Statistical Results of Eyesight of five thousand Public School Children—20 min.—Dr. G. Sterling Ryerson.
159. The Abolition of Slavery in Upper Canada—20 min.—William Houston.
218. A Plan for a Census of Fisheries—15 min.—Chas. W. Smiley.
184. Inutility of the Desert Land Act—12 min.—J. R. Dodge.
219. Scientific and Economic means of Protecting Life by Signal Lights—30 min.—William Franklin Corton.
131. Agricultural Experiment Stations—15 min.—W. O. Atwater.
153. Industrial Education—15 min.—Laura Osborne Talbot.

*Tuesday, September 3.***Morning.**

Meeting of the Council at 9 o'clock.

GENERAL SESSION at 10 o'clock.

Election of Officers and Agreement on time and place of Meeting for 1890.

General business.

Meeting of the Sections after the adjournment of the General Session.

Afternoon.

Meeting of the Sections at 2 o'clock.

Final adjournment of the Sections.

Garden party in Government House grounds, from 5 to 7 o'clock, tendered by the City Council and Citizens.

Evening.

GENERAL SESSION in Association Hall, Yonge Street, at 8 o'clock.

Concluding exercises and adjournment of the Association.

After the adjournment of the meeting there will be several excursions. For particulars see Notices of Local Committee. These excursions close the Thirty-eighth Meeting on September 7th.

MEMBERS ELECTED.

August 27, 1889.

1. Henry C. Appleton, Publisher, 1 Bond St., New York. **E I**
2. Ad. F. Bandelier, Santa Fe, N. M. **H**
3. William D. Boardman, 38 Kenilworth St., Roxbury, Mass. **E**
4. Prof. Theo. Brantly, College of Montana, Deer Lodge, Mont. T. **H I**
5. Prof. Wm. T. Brooks, Mass. Agric. College, Amherst, Mass. **C F**
6. Prof. George Bryce, LL.D., Manitoba College, Winnipeg, Manitoba. **H**
7. Capt. Thos. L. Casey, U. S. Engineer, Army Building, New York, N.Y. **F**
8. Alexander F. Chamberlain, 34 Arthur St., Toronto, Ont. **H**
9. Royal Tyler Church, Turin, Lewis Co., N.Y. **D F**
10. William A. Croffut, U. S. Geological Survey, Washington. **H I**
11. Susan J. Cunningham, Prof of Mathematics and Astronomy, Swarthmore College, Swarthmore, Pa. **A**
12. John Daniel, Instructor in Physics, Vanderbilt Univ., Nashville, Tenn. **B**
13. John M. Davison, 60 Oxford St., Rochester, N.Y. **C**
14. Luther M. Donaldson, care National Fertilizer Co., Nashville, Tenn. **C**
15. Fred. James Dorand, Chester, Vt. **A I**
16. W. A. Douglass, B.A., 220 Wellesley St., Toronto, Ont. **I**
17. Charles Redway Dryer, Assistant Indiana State Geological Survey Fort Wayne, Ind. **E**
18. Frank E. Emery, Geneva, Ontario Co., N.Y. **F**
19. Howard V. Frost, Prof. of Chemistry in the Brooklyn Polytechnic Institute, Arlington, Mass. **C A B**
20. Edwin Brant Frost, Inst. in Astronomy and Physics, Dartmouth Col., Hanover, N. H.
21. Rev Otis Allan Glazebrook, D.D., Elizabeth, N.J.
22. G. K. Greene, New Albany, Ind. **E F**
23. Thos. Gray, Prof. Dynamic, Engineering, Rose Polytechnic Inst., Terre Haute, Ind.
24. James Cleland Hamilton, M.A., LL.B., Toronto, Ont.
25. Rev. Gottlieb C. H. Hasskarl, Syracuse, N.Y.
26. John Beazley Hastings, Mining Engineer, Ketchum Allaturas Co., Idaho. **E**

27. John Blackstock Hawley, Engineer of St. Paul Water-Works, St. Paul, Minn. **B**
28. Walter J. Hoffman, M.D., Bureau of Ethnology, Washington, D.C. **H**
29. Lewis E. Hood, E. Somerville, Mass. **F**
30. Thomas Hopkins, Assistant Geological Survey of Arkansas, Little Rock, Ark. **E**
31. Walter Hough, Ass't Department of Ethnology, U. S. National Museum, Washington, D.C. **H**
32. James T. Hoyt, Temple Court, Beekman St., New York. **A H**
33. Andrew F Hunter, Barrie Ont. **B H**
34. Dr. John Amory Jeffries, 91 Newbury St., Boston, Mass **F**
35. Thos. Moore Jackson, C.E., Prof. Civil Engineering, W. Va. University, Morgantown, W. Va.
36. J. Floyd King, New York Hotel, New York, N.Y. **D**
37. Otto Julius Klotz, Field Astronomer, Dominion Governm't, Preston, Ont.
38. William Roscoe Livermore, Maj. of Eng., U. S. A., Newport, R.I. **C**
39. Alan Macdougall, F. R. S., Edin., Toronto, Ont. **D H**
40. Jos. E. McDougall, Maritime Court, 121 Carleton St., Toronto, Ont.
41. Charles E. McGowan, M.D., New London, Conn. **E**
42. Rev. John McLean, M.A., Ph.D., Macleod, Alberta, Can.
43. Alexander Chas. McKay, Mathematical Master, Upper Canada College, Toronto.
44. Artemas Martin, Librarian and Custodian of Archives, Coast Survey Office, Washington, D.C. **A**
45. Charles C. Mellon, Vice-Pres. Iron City Microscopical Society, Pittsburgh, Pa. **F**
46. Wm. Hamilton Merritt, 40 St George street, Toronto. **E I**
47. Cosmos M indeleff, Bureau of Ethnology, Washington, D.C. **H**
48. Victor Mindoleff, Bureau of Ethnology, Washington, D.C. **H**
49. James Mooney, Bureau of Ethnology, Washington, D.C. **H**
50. Frank Newton Notestein, Prof. of Mathematics and Astronomy, The College of Montana, Deer Lodge, M.T. **A F**
51. George D. Olds, Prof. of Mathematics, Univ. of Rochester, Rochester, N. Y. **A**
52. Frank Owen Payne, Teacher of Science, Appleton, Minn. **F**
53. Dr. R. A. F. Penrose, jr., State Geological Survey, Little Rock, Ark. **E**
54. Ernest B. Perry, Ann Arbor, Mich. **D**
55. George H. Peters, Hartford, Conn. **A B**

56. Eben Putnam, Boston, Mass. **HI**
57. James Cochrane Quinn, Prof. of Mental and Moral Philosophy,
National Univ., Chicago, Helena, Montana. **EFHI**
58. Taylor Reed, Princeton, N.J. **A**
59. A. H. Russell, Captain of Ordnance, U.S.A., Providence. R.I. **D**
60. Harris J. Ryan, Asst. Prof. of Electrical Engineering, Cornell
Univ., Ithaca, N.Y. **B**
61. George S. Ryerson, M.D., 60 College Ave., Toronto Ont. **F**
62. Wm. H. Seaman, Prof. Analytical Chemistry, School of Mines,
Univ. of Missouri, Rolla, Mo
63. G. N. Saegmuller, Washington, D.C. **AB**
64. John R. Scupham. C. & M. Engineer, Oakland, Cal. **E**
65. Dilman B. Shantz, Berlin, Ont. **I**
66. Porter W. Shimer, E.M., Easton, Pa. **C**
67. Frank T. Shutt, M.A., Chemist to the Dominion Experimental
Farms, Ottawa, Ont. **C**
68. De Cost Smith, Skaneateles, N.Y. **H**
69. Joseph B. Stearns, Camden, Maine. **B**
70. Francis L. Stewart, Murraysville, Pa. **CF**
71. Henry Newlin Stokes, Ph. D., Chemical Laboratory, U.S. Geo-
logical Survey, Washington, D.C. **CE**
72. Charles Stuart Street, 38 Kenilworth St., Roxbury, Mass. **EC**
73. Charles B. Thwing, Instructor in Physics, North-Western Univ.,
Evanston, Ill. **B**
74. Gerritt E. H. Weaver, Instructor in Swarthmore College, Swarth-
more, Pa **F**
75. Miss Nellie B. West, 56 W. 55th St., New York, N.Y. **E**
76. Prof. T. R. White, 353 W. 57th St., New York, N.Y. **HA**
77. Prof. W. P. Wilson, 640 North 32nd St., Philadelphia, Pa. **F**
78. S. Grant Wright, Perrysville, Ind. **F**
79. Harrison Garman, Entomologist and Botanist, State Exper. Station,
Lexington, Ky. **F**
80. Prof. John W. Hartigan, W. Va. University, Morgantown, W
Va. **F**
81. Chs. W. Hastings, Kansas City, Mo. **B**
82. Wm. Houston, Govt Library, Toronto, Ont. **I**
83. Walter Hough, Nat. Museum, Washington, D.C. **H**
84. James Gibson Hume, Univ. College, Toronto. **I**
85. Herbert G. Ogden, U.S. Coast and Geodetic Survey, Washington,
D.C. **AB**
86. Frank Fitz Payne, Meteorological Office, Toronto. **B**
87. James H. Pearce, Toronto, Ont. **F**
88. John Edward White, Toronto, Ont. **F**

89. James G. Witton, University College, Toronto, Ont. **B**
90. Prof. R. Ramsay Wright, Toronto, Ont. **F**
91. Prof. Chs. W. Hargitt, Oxford, Ohio.
92. John H. Means, Geological Survey, Little Rock, Ark. **E**
93. William Kennedy, Geological Survey, Little Rock, Ark. **E H**
94. Leon Stacy Griswold, Geol. Survey, Little Rock, Ark. **E**
95. Thos. Hopkins, Geol. Survey, Little Rock, Ark. **E**
96. Dr. Andrew C. Lawson, Ottawa, Canada. **E**
97. John Perrin, Mount Royal Park, Montreal. **B**
98. F. W. Kuhne, Fort Wayne, Ind.
99. A. Isabel Mulford, Orange, N.J. **F**
100. John Galbraith, Prof. Civil Engineering, Toronto. **A**
101. Archibald Hope Young, Upper Canada College, Toronto. **H**
102. Henry H. Wing, Cornell Univ. Expt. Station, Ithaca, N.Y.
103. Gates P. Thruston, Nashville, Tenn. **H**
104. Clarence M. Weed, Ohio Expt. Station, Columbus, O. **F**
105. William Macdonald. Toronto, Ont.
106. Thomas Shortiss, Toronto, Ont. **D E**
107. Peter Bryce, Sec'y Board of Health, Toronto, Ont. **F H**
108. Archibald B. Macallum, University College, Toronto, Canada.
109. W. Reynolds Singleton, Washington. **H**
110. Dr. Thomas J. W. Burgess, Hamilton, Ont. **F**
111. Asaph Hall, Jr., U. S. Naval Observatory, Washington. **A**

Wednesday, August 28.

112. Cortez Fessenden, Wapanee, Ont.
113. William Wallace Campbell, Instructor in Astronomy, University of Michigan, Ann Arbor, Mich. **A**
114. Alexander Ziwet, Ann Arbor, Mich. **A**
115. W. A. Burmace, Winnipeg.
116. David Reid Keys, University College, Toronto. **H**
117. Prof. Thomas H. McBride, State Univ. of Iowa, Iowa City. **F**
118. Dr. Alfred R. C. Selwyn, Director of Geological Survey of Canada, Ottawa. **E**
119. Chase Palmer, Prof. of Chemistry, Wabash College, Crawfordsville, Ind. **C**
120. Prof. Samuel T. Maynard, Prof. Botany, Massachusetts Agri. Coll., Amherst, Mass. **F**
121. Curtis C. Howard, Prof. of Chemistry, Starling Medical College, Columbus, Ohio. **C**
122. Eugene H. Roberts, University of Mississippi, Oxford, Miss.
123. Allen D. Risteen, Hartford, Connecticut. **A B D**

124. Edward B. Shuttleworth, Dean of Ontario College of Pharmacy. **C**
125. William Knox, Architect, 13 Victoria St., Toronto, Ont.
126. Simeon H. Janes, M.A., Toronto, Ont. **A E**
127. W. R. Head, Hyde Park, Chicago, Ill.
128. G. C. Creelman, Acting Prof. of Biology, Agricultural College, Mississippi.
129. J. E. Graham, M.D., Toronto, Ont. **F**
130. W. S. Blackstock, 20 Homewood Ave., Toronto, Ont. **H**
131. Chas. Gibson, D.Sc., Chicago, Ill. **C**
132. Wm. H. Weldon, M.D., Chicago, Ill. **F H**
133. Orange Merwin, Bridgeport, Conn. **E**
134. Adam Capen Gill, Northampton, Mass. **E**
135. George Bruce Halsted, Prof. of Mathematics, University of Texas, Austin, Texas. **A**
136. Marcus P. Norton, 50 Broadway, New York.
137. Alexander D. Anderson, Washington, D.C.
138. John Uri Lloyd, Pharmaceutical Chemist, Court and Plum Streets, Cincinnati, Ohio. **C F**
139. Clinton Owen Bates, Prof. Chemistry in Coe College, Cedar Rapids, Iowa.
140. Mary Townsend Sharpless Schaffer, 1309 Arch St., Philadelphia, Pa. **F E**
141. John H. Talbutt, Lexington, Kentucky.
142. James F. W. Ross, M.D., C.M., Sherbourne and Wellesley Sts. Toronto, Ont.
143. Robert Allen Thompson, Mathematical Master, Hamilton College Institute, Hamilton, Ont. **A**
144. T. D. Ledyard, 4 Ontario Chambers, Toronto, Ont.
145. W. T. Jennings, Civil Engineer, Toronto, Ont. **D**
146. Byron Edmund Walker, Toronto, Ont. **E**
147. Norman B. Wood, Jr., 67½ University St., Cleveland, Ohio.
148. William H. Jenks, Brookville, Pa. **D**
149. Andrew Smith, F. R. C. V. S., Toronto, Ont. **F**
150. Arthur B. Willmott, Antioch College, Yellow Springs, Ohio.
151. Amos R. Wells, Antioch College, Yellow Springs, Ohio.
152. A. M. Roseburgh, M.D., Church St., Toronto Ont.
153. George Burchutt Abney, Toronto, Ont. **D**
154. W. E. Boustead, Toronto, Ont. **C**
155. J. N. Whitney, Chief Clerk U. S. Bureau of Statistics, Washington, D.C. **I**
156. Goldsmith B. West, Birmingham, Alabama. **E**
157. George Bruce Halstead, Prof. of Math., Univ. of Texas, Austin, Texas. **A**

158. Robert Bell, M.D., LL.D., Asst. Director Geological Survey of Canada, Ottawa. **F E**
159. Warren K. Moorehead, Smithsonian Institution, Washington, D.C. **H**
160. C. C. Mellor, Pittsburgh, Pa. **B**
161. Charles P. Bennis, Schenectady, N.Y. **D**
162. C. H. Smyth, jr., Ph.B., Clinton, N.Y. **E**
163. E. Renel Smith, Skaneateles, N.Y.
164. Dr. George M. Dawson, Asst. Director Geological Survey of Canada, Ottawa. **E H**
165. James Foster, 13 King St. West, Toronto. **B**
166. Malcolm MacVicar, Chancellor MacMaster University, Toronto. **A**
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Thursday, August 29th.

167. W. J. Ashley, Prof. of Political Economy in the University of Toronto, Toronto. **I**
168. Henry Symons, 4 Howard St., Toronto.
169. Arthur G. Clement, Supt. New York State Inst. for the Blind.
170. W. Theophilus Stuart, 197 Spadina Ave., Toronto. **C**
171. Mrs. Helen R. Taylor, 230 Parliament St., Toronto.
172. Frank Julian, Chicago, Ill. **C**
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Friday, August 30th.

173. Mungo Turnbull, 18 Dennison Sq., Toronto. **A E**
174. George B. Sweetnam, 152 Carleton St., Toronto. **C**
175. Thos. S. Fiske, Ph. D., Columbia College, New York. **A**
176. L. H. Jacoby, Columbia College, New York. **A**
177. John Cameron, Publisher, Toronto. **I**

LIST OF MEMBERS AND ASSOCIATES

IN ATTENDANCE AT THE MEETING.

[Additional arrivals will be given in the Programme for each day.]

Tuesday, August 27th.

Number of Register and Badge.

City Address.

1. T. C. Mendenhall, Washington, D.C.....Queen's Hotel.
2. F. W. Putnam, Cambridge, Mass.Queen's Hotel.
3. Charles C. Abbott, Trenton N.J.....Queen's Hotel.
4. James Loudon, Toronto.....83 St. George St.
5. Charles Carpmael, TorontoDale Ave.
6. James D. Dana, New Haven Conn.....Queen's Hotel.
7. Sir Daniel Wilson, Toronto.....46 St. George St.
8. C. A. White, Washington, D.C.....Queen's Hotel
9. Henrietta L. T. Wolcott, Dedham, Mass467 Spadina Ave.
10. J. J. Stevenson, Univ. of City of New York ...Queen's Hotel
11. Samuel Calvin, Iowa City.....Metropole Hotel.
12. W. M. Beauchamp, Baldwinsville, N.YMetropole Hotel
13. N H Winchell, Minneapolis.....
14. Charles B. Gibson, Chicago576 Church St
15. H. D. Garrison, ChicagoWalker House.
16. Herman L. Fairchild, Rochester, N.Y.....29 Grange Ave.
17. Mrs. H. L. Fairchild, Rochester, N.Y.....29 Grange Ave.
18. Daniel S. Martin, New York.....29 Grange Ave.
19. A. E. Douglass, New York.....Rossin House.
20. Edward Hart, Easton, Pa.....Rossin House.
21. Mrs. Edward Hart, Easton, Pa.....Rossin House.
22. H. W. Wiley, Washington, D.C.....Rossin House.
23. Mrs. Nellie S. Kedzie, Manhattan, Kan.....Queen's Hotel.
24. E. Lewis Sturtevant, South Framingham, Mass. Queen's Hotel.
25. T. J. Burrill, Champaign, Ill.....79 Shuter St.
26. Charles H. Smith, Austin, Tex.....333 Church St.
27. William Frear, State College, Pa.....Queen's Hotel.

28. Fred. V. Coville, Washington, D.C.....Queen's Hotel.
29. Horatio N. Chute, Ann Arbor, Mich.....44 Hayden St.
30. George L. English, Philadelphia, Pa.....580 Church St.
31. M. A. Scovell, Lexington, Ky.....Rossin House.
32. Edward Goldsmith, Philadelphia, Pa.....Club.
33. A. W. Vogdes, Fort Hamilton, N.Y. HarQueen's Hotel.
34. Mrs A. W. Vogdes, Fort Hamilton, N.Y. Har..Queen's Hotel.
35. A. J. Cook, Agricultural College, Mich.....31 College Ave.
36. Benjamin W. Snow, Ithaca, N.Y.....
37. A. S. Tiffany, Davenport, IowaInternational Hotel.
38. John A. Myers, Morgantown, W. VaRossin House.
39. H. Carrington Bolton, New YorkQueen's Hotel.
40. I. C. White, Morgantown, W. Va.....Queen's Hotel.
41. B. E. Fernow, Washington, D.CRossin House.
42. John C. Branner, Little Rock, Ark.Queen's Hotel.
43. N. C. Husted, Tarrytown-on-Hudson, N.Y....Walker House.
44. William H. Dall, Washington, D.C.....Queen's Hotel.
45. H. H. Nicholson, Lincoln, Neb.....Queen's Hotel.
46. David F. Day, Buffalo, N.Y.....Queen's Hotel.
47. Mrs. David F. Day, Buffalo, N.Y.....Queen's Hotel.
48. Robert T. Hill, Austin, Tex.....Queen's Hotel.
49. Mrs. Robert T. Hill, Austin, Tex.....Queen's Hotel.
50. Elroy M. Avery, Cleveland, OQueen's Hotel.
51. William L. Dudley, Nashville, Tenn.....Queen's Hotel.
52. D. W. Prentiss, Washington.....Queen's Hotel.
53. C. Leo Mees, Terre Haute, Ind.....Queen's Hotel.
54. Miss Ella Eaton, Northampton, Mass.....
55. G. Frederick Wright, Oberlin, Ohio.....86 Charles St.
56. P. N. Schuyler, Bellevue, Ohio.....Walker House.
57. James Lewis Howe, Louisville, Kentucky25 Murray St.
58. Miss Katie M. Dudek, New York.....29 Grange Ave.
59. Dr Jeannette B. Greene, New YorkLake View House.
60. J. C. Arthur, La Fayette, Ind.....
61. R. C. Kedzie, Lansing, Mich.....Queen's Hotel.
62. Samuel W. Very, Annapolis, Md.....Keachie's Hotel.
63. G. N. Merryweather, Cincinnati, O.....Walker House.
64. G. C. Broadhead, Columbia, Mo.....Walker House.
65.
66. L. O. Howard, Washington, D C
67. Mrs. Esther Herrman, New YorkQueen's Hotel.
68. Edgar L. Larkin, Galesburg, Ill.....
69. Mrs. J. R. Dodge, Washington, D.C.....Queen's Hotel.
70. J. Richards Dodge, Washington, D.C.....Queen's Hotel.

71. John B. Tweedale, St. Thomas, Ont.....
72. William Saunders, Ottawa, Ont.....Rossin House.
73. Walter F. Ferrier, New Brunswick, N.J.....174 Carlton St.
74. William H. Seaman, Washington, D.C.....40 Ann St.
75. Thomas Taylor, Washington, D.C.....11 Linden St.
76. D. H. Oppenheim, New York,.....Queen's Hotel.
77. Mrs. S. Oppenheim, New YorkQueen's Hotel.
78. W. J. Beal, Agricultural College, Mich.....31 Avenue St.
79. Mrs. W. J. Beal, Agricultural College, Mich ...31 Avenue St.
80. Timothy F. Allen, New York.....Queen's Hotel.
81. P. R. Hoy, Racine, Wis.....24 Ann St.
82. W. H. Ellis, Toronto, Ont.....University College.
83. G. W. Lehmann, Baltimore, Md.....Queen's Hotel.
84. Mrs. G. W. Lehmann, Baltimore, Md.....Queen's Hotel.
85. William R. Lazenby, Columbus, O.....Queen's Hotel.
86. A. P. S. Stewart, Lincoln, Neb.....24 Ann St.
87. Mrs. A. P. S. Stewart, Lincoln, Neb.....24 Ann St
88. George C. Caldwell, Ithaca, N.Y....."The Grange."
89. R. T. Colburn, Elizabeth, N.Y.....
90. Mrs. R. T. Colburn, Elizabeth, N.Y.....
91. J. H. Kedzie, Evanston, IllQueen's Hotel.
92. Mrs. J. H. Kedzie, Evanston, Ill.....Queen's Hotel.
93. O. Chanute, Chicago, Ill.....Queen's Hotel.
94. W. J. McGee, Washington, D.C... ..Rossin House.
95. Alexander Winchell Ann Arbor, Mich.....Walker House.
96. J. F. Cowell, Buffalo, N.YWalker House.
97. Charles E. Bessey, Lincoln, Neb.....31 College St.
98. F. Lamson Scribner, Knoxville, Tenn30 King St.
99. Eugene E. Fish, Buffalo, N.Y.....Walker House.
100. Mary A. Booth, Longmeadow, Mass
101. W. Le Conte Stevens, Brooklyn, N.Y.....Queen's Hotel.
102. Archibald Blue, Toronto, Ont.....11 Linden St.
103. E. W. Hyde, Cincinnati, O.....Palmer House.
104. Angelo Heilprin, Philadelphia, Pa.....Rossin House.
105. Thomas Meehan, Philadelphia, Pa.....Queen's Hotel.
106. A. L. Arey, Rochester, N.Y.....10 North St.
107. James T. B Ives, Toronto.....429 Spadina Ave.
108. Mrs. A. L. Arey, Rochester, N.Y.10 North St.
109. William Jay Youmans, New YorkArlington Hotel.
110. Mrs. Celia G. Youmans, Mount Vernon, N.Y..Arlington Hotel.
111. William R. Pedrick, Lawrence, Mass..'.31 Avenue St.
112. Eleanor B. Pedrick, Lawrence, Mass.....31 Avenue St.
113. Martha M Barker, Lowell, Mass.....31 Avenue St.

114. W. O Atwater, Washington, D.C. Queen's Hotel.
115. Amos W. Butler, Brookville, Ind. Walker House.
116. Mrs. A. W. Butler, Brookville, Ind. Walker House.
117. Henry S Carhart, Ann Arbor, Mich. Walker House.
118. John B. Smith, New Brunswick, N.J. Keachie's Hotel.
119. W. H. Walmsley, Philadelphia, Pa. Rossin House.
120. James N. Baxter, Brooklyn, N.Y. Rossin House.
121. Mary B. Moody, New Haven, Conn.
122. Arthur E. B. Moody New Haven, Conn.
123. Bushrod W. James, Philadelphia, Pa. Queen's Hotel
124. John Collett, Indianapolis, Ind. Rossin House
125. J. E. Denton, Hoboken, N.J. 383 Church St.
126. Miss H. A. Kittredge, North Andover, Mass. . Queen's Hotel.
127. Miss C. A. Watson, Salem, Mass. Queen's Hotel.
128. Thomas D. Robertson, Rockford, Ill. Queen's Hotel.
129. Mrs. Thomas D. Robertson, Rockford Ill. Queen's Hotel.
130. C. A. Hirschfelder, Toronto.
131. George Lincoln Goodale, Cambridge, Mass. Queen's Hotel.
132. George F. Barker, Philadelphia, Pa. Queen's Hotel.
133. Mrs George F. Barker, Philadelphia, Pa. Queen's Hotel.
134. Miss Clara T. Barker. Philadelphia, Pa. Queen's Hotel.
135. James Hall, Albany, N.Y. Queen's Hotel.
136. Prof. Chase Palmer, Crawfordsville, Ind. Rossin House
137. Charles S. Hill, Washington, D.C. Queen's Hotel.

Wednesday, August 28th.

138. Chas H. Chandler, Ripon, Wis. Revere House.
139. L. W. Bailey, Frederickton, N.B. Arlington.
140. Francis Laird Stewart, Murraysville, Pa. Walker House.
141. Geo. C. Comstock, Madison, Wis. Queen's Hotel.
142. Alan Macdougall, Toronto, Ont. 30 Adelaide St. E.
143. Charles M. Knight, Akron, O. Walker House.
144. C Canby Balderston, Westtown, Pa. Walker House.
145. Frank E. Emery, Geneva, N.Y. 207 College St.
146. Wooster Woodruff Beman, Ann Arbor, Mich. . 29 Grange Ave.
147. Robert B. Warder, Washington, D.C. 15 Division St.
148. Byron D. Halsted, New Brunswick, N.J. 31 College Ave.
149. Joseph F. James, Washington, D.C. Walker House.
150. Mrs. Joseph F. James, Washington, D.C. Walker House.
151. Rev. Corliss B. Gardiner, Rochester, N.Y. 31 Avenue St.
152. Edward P. Thompson, Beaver Falls, Pa.

153. H. T. Eddy, Cincinnati, O. Palmer House.
154. Charles B. Thwing, Evanston, Ill. 246 Jarvis St.
155. Sir Wm. Dawson, Montreal, Que 46 St. George St.
156. Wm. Harkness, Washington, D.C. Rossin House.
157. Ira Remsen, Baltimore, Md. Rossin House.
158. W. A. Noyes, Terre Haute, Ind. 239 Beverley St.
159. Chas. D. Walcott, Washington, D.C. 429 Church St.
160. H. W. Henshaw, Washington, D.C. Queen's Hotel.
161. Douglas H. Campbell, Detroit, Mich. Queen's Hotel.
162. E. H. Preswick, Ithaca, N.Y. Albion Hotel.
163. Mrs. F. W. Putnam, Cambridge, Mass. Queen's Hotel.
164. Miss Ethel A. F. Putnam, Cambridge, Mass. Queen's Hotel.
165. Henry S. Williams, Ithaca, N.Y. 429 Church St.
166. Rev. Chas. J. S. Bethune, Port Hope, Ont . . . 184 College Ave.
167. Frank Leverett, Madison, Wis Albion Hotel
168. F. W. Clarke, Washington, D.C. Queen's Hotel.
169. Louis C. Wurtele, Actondale, Que. 96 Bellevue Ave.
170. Mrs. L. C. Wurtele, Actondale, Que. 96 Bellevue Ave
171. Edwin E. Howell, Rochester, N.Y. 29 Grange Ave.
172. Mrs. Edwin E. Howell. Rochester, N.Y. . . . 29 Grange Ave.
173. Alexander Charles McKay, Toronto.
174. Andrew C. Dawson, Ottawa. 16 Washington Ave.
175. H. A. Newton, New Haven, Conn. Queen's Hotel.
176. Mrs. H. L. Smith, New York. 126 Baldwin St
177. Alexander F. Chamberlain, Toronto. 36 Arthur St.
178. Andrew F. Hunter, Barrie, Ont. Lucas' House
179. R. S. Woodward, Washington, D.C. Rossin House.
180. Mrs. R. S. Woodward. Washington, D.C. . . . Rossin House
181. J. Burkitt Webb, Hoboken, N.J. 283 Church St.
182. Geo. H. Williams, Baltimore, Md. Queen's Hotel
183. James H. Pearce, Toronto, Ont. 226 Beverley St
184. Wm S Rogers, Waterville, Me. Queen's Hotel.
185. A. E. Dolbear, College Hill, Mass.
186. S. J. Coffin, Easton, Pa. Elliot House.
187. Miss E. Angle, Lewisbury, Pa. Elliot House.
188. Mrs. W. D. Boardman, Roxbury, Mass 32 John St.
189. J. H. Chapin, Meriden, Conn. Queen's Hotel.
190. Stephen S. Haight, New York. 94 McCaul St
191. Mrs. Stephen S. Haight, New York. 94 McCaul St
192. Miss Mary Evelyn Haight, New York. 94 McCaul St
193. Samuel Carleton Haight, New York. 94 McCaul St
194. J. R. Eastman, Washington, D.C. Queen's Hotel.
195. Mrs. J. R. Eastman, Washington, D.C. Queen's Hotel

196. Ernest Merritt, Ithaca, N.Y. 239 Beverley St.
197. A. R. Crandall, Lexington, Ky. Rossin
198. Horace C. Hovey, Bridgeport, Conn. Keachie's Hotel.
199. Homer T. Fuller, Worcester, Mass. Rossin
200. Mrs. H. T. Fuller, Worcester, Mass. Rossin
201. Charles S. Howe, Cleveland, Ohio. Rossin House.
202. Walter Hough, Washington, D.C. 25 Murray St.
203. John J. Mackenzie, Toronto, Ont. 222 Sherbourne St.
204. C. H. McLeod, Montreal, Que. 432 Jarvis St.
205. Miss Nellie B. West, New York. Lakeview Hotel.
206. W. H. Hollinshead, Nashville Town. 13 St. Patrick St.
207. Charles W. Hargitt, Oxford, Ohio. Walker House.
208. James Fletcher, Ottawa. 178 St. Patrick St.
209. J. Owen Dorsey, Takoma Park P.O., D.C. 25 Murray St.
210. Benjamin Lord, New York. Queen's.
211. Mrs. Benjamin Lord, New York. Queen's.
212. G. K. Gilbert, Washington, D.C. Queen's.
213. Edmund O. Hovey, Waterbury, Conn. 25 Murray St.
214. George Bryce, Winnipeg, Man. The Pines, Davenp't.
215. Frank T. Shutt, Ottawa, Ont. "Rosedale Cottage"
216. P. H. Bryce, M.D., Toronto.
217. E. D. Preston, Washington, D.C. 350 King St.
218. Edward Dummer, Boston, Mass. 383 Church St.
219. Mrs. Edward Dummer, Boston, Mass. 383 Church St.
220. Rollin D. Salisbury, Beloit, Wis. Queen's.
221. J. Francis Williams, Salem, N.Y. Queen's.
222. H. H. Lyman, Montreal, Quebec. Queen's.
223. George Iles, New York. Elm Avenue.
224. R. A. F. Penrose, Little Rock Ark. Queen's.
225. Wm. H. Hale, Albany, New York. 236 Adelaide St.
226. Harrison Garman, Lexington, Ky. 31 College St.
227. Romyn Hitchcock, Washington, D.C. Queen's.
228. Mrs. Romyn Hitchcock, Washington, D.C. Queen's.
229. Mrs. G. K. Baldwin, Detroit, Mich. Rossin.
230. Mrs. L. H. Trowbridge, Detroit, Mich. Rossin.
231. N. L. Britton, New York. Queen's.
232. Mrs. N. L. Britton, New York. Queen's.
233. Miss H. Lousie Britton, New York. Queen's.
234. Miss Mary A. Knight, New York. Queen's.
235. Miss Millie Timmerman, New York. Queen's.
236. M. B. Waite, Washington, D.C.
237. B. T. Galloway, Washington, D.C. Rossin House.
238. James T. Lusk, Marietta, Ohio.

239.	Charles Schaffer, Philadelphia, Pa.	Rossin House
240.	Mrs. Charles Schaffer, Philadelphia, Pa.	Rossin House.
241.	John McLean, Moosejaw, N.W.T.	
242.	Luther M. Donaldson, Nashville, Tenn.	
243.	Edward W. Morley, Cleveland, Ohio.	Queen's Hotel.
244.	Albert A. Prescott, Ann Arbor, Mich.	Queen's Hotel.
245.	Thomas Joseph Workman Burgess, Hamilton, Ont	56 Henry St
246.	Albert S. Bickmore, New York.	Queen's Hotel
247.	Edward L. Nichols, Ithaca.	
248.	Clarence M. Weed, Columbus, Ohio.	31 College St.
249.	J. F. Whiteaves, Ottawa, Ont.	16 Grosvenor St.
250.	Marcus Benjamin, New York.	Rossin House.
251.	C. H. Hitchcock, Hanover, N.H.	483 Church St.
252.	Miss Maria P. Hitchcock, Hanover, N.H.	383 Church St.
253.	A. Isabel Mulford, Orange, N.J.	79 Shuter St.
254.	C. A. Waldo, Terre Haute, Ind.	239 Beverley St.
255.	Henry H. Wing, Ithaca, N.Y.	Walker House
256.	Thomas Gray, Terra Haute, Ind.	239 Beverley St.
257.	Mrs E. O. Hovey, Waterbury, Conn.	25 Murray St.
258.	Wm. Dorr Boardman, Roxbury, Mass.	32 John St.
259.	James Mills, Guelph, Ont.	Rossin House.
260.	Edgar G. Miller, Baltimore, Md.	Queen's Hotel
261.	Robert Hay, Junction City, Kan.	Palmer House
262.	Frank Fitz Payne, Toronto, Ont.	
263.	Charles B. Atwell, Evanston, Ill.	21 Carlton St.
264.	J. M. Rice, Annapolis, Md.	Queen's.
265.	Henry James, M.D., Toronto, Ont.	204 Spadina Ave.
266.	E. N. S. Ringueberg, Lockport, N.Y.	
267.	W. R. Warner, Cleveland, Ohio.	Queen's.
268.	Jefferson E. Kershner, Lancaster City, Pa.	Queen's.
269.	T. H. McBride, Iowa City, Ia.	Arlington.
270.	Mrs. T. H. McBride, Iowa City, Ia.	Arlington.
271.	Arch. B. Macallum, Toronto.	
272.	John Perrin, Montreal, Que.	
273.	Cady Staley, Cleveland, O.	Queen's.
274.	Archibald Hope Young, Toronto, Ont.	
275.	Mrs. W. A. Rogers, Waterville, Me.	Queen's.
276.	James Gayford Witton, Toronto, Ont.	118 D'Arcy St.
277.	Taylor Reed, Princeton, N. J.	Queen's.
278.	Joseph Cummings, Evanston, Ill.	Queen's.
279.	Henry Farquhar, Washington, D.C.	
280.	Mrs. H. Farquhar, Washington, D.C.	
281.	John Lucas, Philadelphia, Pa.	"Ernesleigh."

282. Mrs. John Lucas, Philadelphia, Pa..... "Ernesleigh."
 283. Fred. Hoffmann, New York..... Queen's.
 284. Albert Lucas, Philadelphia, Pa.....
 285. Mrs. L. E. Holden Cleveland, O..... Queen's.
 286. Persifor Frazer, Philadelphia, Pa..... Queen's Hotel.
 287. H. P. Cushing, Cleveland, O..... Queen's Hotel.
 288. Joseph J. Walton, Philadelphia, Pa..... Walker House.
 289. G. W. Hough, Evanston, Ill..... Queen's Hotel.
 290. Edward S. Morse, Salem, Mass..... Prof. R. R. Wright's.
 291. G. P. Thruston, Nashville, Tenn..... Rossin House
 292. James F. Kemp, Ithaca, N. Y..... 429 Church St
 293. A. V. E. Young, Evanston, Ill..... Walker House
 294. Leon P. Kinnicott, D. Sc Worcester Poly. Inst., Rossin House.
 295. Mrs. Leon. P. Kinnicott, Worcester Poly. Inst., Rossin House.
 296. W. H. Merritt 40 St. George St.
 297. Garrick Mallery, Washington, D.C..... Queen's Hotel.
 298. Mrs. Garrick Mallery, Washington, D.C..... Queen's Hotel.
 299. John Galbraith, Prof. of Engineering..... 62 St. Mary's St.
 300. Thos. M. Jackson, C. E., D. Sc, Morgantown, W Va., Queen's Hotel.
 301. Mrs. John C. Branner, Little Rock, Ark..... Queen's Hotel.
 302. Albert Lufkin, Newton, Iowa..... 159 Simcoe St.
 303. Mrs. F. Lufkin, Newton, Iowa..... 159 Simcoe St.
 304. Miss L. Lufkin, Newton, Iowa..... 159 Simcoe St.
 305. Miss N. Lufkin, Newton, Iowa..... 159 Simcoe St.
 306. Harris J. Ryan, Ithaca, N. Y..... 239 Beverley St.
 307. Prof. R. B. Fulton, University, Miss..... Walker House.
 308. W. W. Campbell, Ann Arbor, Mich..... 29 Grange Ave.
 309. Dr. G. S. Ryerson, Toronto..... 60 College Ave
 310. Prof. R. R. Wright, Toronto.....
 311. Alex. Ziwet, Ann Arbor, Mich..... 29 Grange Ave.
 312. S. F. Emmons, Washington, D.C.....
 313. M. A. Veeder, Lyons N. Y..... Rossin House.
 314. E. W. Claypole, Akron, Ohio.....
 315. Katharine B. Claypole, Akron, Oh o.....
 316. Prof. Geo D. Olds, Rochester, N. Y..... 29 Grange Ave.
 317. Mrs. G. D. Olds, Rochester, N. Y..... 29 Grange Ave.
 318. Mary Leland, Rochester, N. Y..... 29 Grange Ave.
 319. Mrs. Albert S. Bickmore, New York..... Queen's Hotel.
 320. Prof. E. H. S. Bailey, Lawrence, Kan..... Elliott House.
 321. F. P. Leavenworth, Haverford College, Pa.... Albion Hotel.
 322. Mrs. F. P. Leavenworth, Haverford College, Pa. Albion Hotel.
 323. Miss Esther Leavenworth, Havenford Col, Pa.. Albion Hotel.
 324. Prof R. H. Ward, Troy, N. Y..... Palmer House.

325. James T. Hoyt, New York The Arlington.
 326. Mrs. James T. Hoyt, New York The Arlington
 327. W. M. Dudley Ithaca, N.Y. Rossin House
 328. John W. Langley, Pittsburg, Pa Arlington.
 329. Mrs. J. W. Langley, Pittsburg, Pa Arlington.
 330. Prof. Mortimer E. Cooley, Ann Arbor, Mich .. Arlington.
 331. Mrs. M. E. Cooley, Ann Arbor, Mich Arlington.
 332. F. W. Kuhne, Fort Wayne, Ind. 79 Shuter St.
 333. Mrs F. W. Kuhne, Fort Wayne, Ind. 79 Shuter St.

Thursday, August 29th.

334. Atreus Wanner, York, Pa. Walker House.
 335. C. Fessenden, Napanee, Ont 126 Seaton St.
 336. DeCost Smith, Skaneateles, N.Y. Rossin House.
 337. Mrs. E. R. Smith, Skaneateles, N.Y. Rossin House.
 338. Miss C. M. Smith, Skaneateles, N.Y. Rossin House.
 339. Mr. E. B. Reed, London, Ont. 98 St Patrick St.
 340. T. Griswold Comstock, St. Louis, Mo. Queen's Hotel.
 341. W. B. Clark, Baltimore, Md. Queen's Hotel.
 342. F. D. Adams, Montreal, Que. Queen's Hotel.
 343. Miss Charlotte C. Barnum, New Haven, Conn. Queen's Hotel.
 344. Mary B. Dewing, Stamford, Conn Queen's Hotel.
 345. Stephen Bush, Waterford, N.Y. Palmer House.
 346. Mrs. Stephen Bush, Waterford, N.Y. Palmer House.
 347. T. C. Chamberlin, Madison, Wis. Queen's Hotel.
 348. G. B. Halsted, Austin, Texas Rossin House.
 349. Dr. A. M. Rosebrugh, Toronto, Ont. 131 Church St.
 350. Charles F. Rand, M.D., Batavia, N.Y. Queen's Hotel.
 351. W. H. Jenk, Brookville, Pa. Elliot House.
 352. Mrs. J. G. Dolley, Albion, N.Y. 128 Baldwin St.
 353. Emma R. McGee, Farley, Iowa St James.
 354. W. K. Moorehead, Washington, D.C. 38 Rossin House.
 355. J. C. Hamilton, Toronto
 356. E. B. Frost, Hanover, N.H. Rossin House.
 357. E. H. Roberts, Oxford, Miss Walker House.
 358. D. R. Keys, Toronto
 359. Norman B. Wood, Cleveland, Ohio. 94 Baldwin St.
 360. E. B. Shuttleworth, Toronto. 220 Sherbourne St.
 361. J. E. McDougall, Toronto 121 Carlton St.
 362. C. S. Street, Roxbury, Mass. 32 John St.
 363. G. B. Abr y, Toronto 23 Beaconsfield Av.

364. Charles P. Benna, Schenectady, N.Y. Walker House.
365. Thomas Ewing, Jr., Washington, D.C. { Cor. Queen's Park
and Joseph St.
366. W. H. Bristol, Hoboken, N.J.
367. E. Renel Smith, Skaneateles, N.Y. Rossin House.
368. Mrs. Geo. H. Williams, Baltimore, Md. Queen's Hotel.
369. Mrs. Jas. Lewis Howe, Louisville, Ky. 25 Murray St.
370. W. S. Blackstock, Toronto 20 Homewood Ave.
371. P. J. Farnsworth, Clinton, Iowa
372. W. R. Head, Chicago, Ill.
373. A. C. Gill, Northampton, Mass. 25 Murray St.
374. Dr. Robert Bell, Ottawa, Can. 75 Peter St.
375. William Houston, Toronto. Governm't Library.
376. R. A. Thompson, Hamilton, Ont. 112 Robert St.
377. Chas. S. Cook, Evanston, Ill. Rossin House.
378. Gustav Lindenthal, Pittsburgh, Pa. Walker House.
379. Wm. A. Burman, Winnipeg, Man. Continental Hotel.
380. G. C. Creelman, Mississippi 101½ Bleeker St.
381. Amos R. Wells, Yellow Springs, Ohio.
382. W. E. Boustead, Toronto 200 Jarvis St.
383. Dr. W. J. Hoffman, Washington, D.C. Rossin House.
384. Mrs. W. J. Hoffman, Washington, D.C. Rossin House.
385. Retta Lyons, New Orleans, La. Rossin House.
386. Ella Smith, Hagerstown, Md. Rossin House.

Friday, August 30th.

387. Prof. C. O. Bates, Cedar Rapids, Iowa. Queen's Hotel
388. Dr. L. Schoney, New York. Rossin House.
389. John R. Bartlett, Providence, R.I. Queen's Hotel.
390. Prof. Arthur B. Willmott, Yellow Springs, Ohio.
391. Mrs. George Bryce, Winnipeg, Man. "The Pines."
392. L. E. Holden, Cleveland, Ohio
393. A. F. Holden, Salt Lake City, Utah
394. Dr. A. R. C. Selwyn, Ottawa, Can. Rossin House.
395. Arthur G. Clement, Batavia, N.Y. Queen's Hotel.
396. Dr. W. Theophilus Stuart, Toronto. 197 Spadina Ave.
397. Prof. Henry B. Nason, Troy, N.Y. Queen's Hotel.
398. T. D. Ledyard, Toronto 4 Ontario Chambers.
399. Oscar C. Fox, Washington, D.C. Walker House.
400. Louise H. Fox, Washington, D.C. Walker House.
401. Mrs. Helen R. Taylor, Toronto 422 Jarvis St.

402. Henry C. Beadleston, New YorkQueen's Hotel.
403. S. H. Janes, Toronto.....
404. E. B Treat, New YorkThe Arlington.
405. Mungo Turnbull, Toronto.....18 Denison Square.
406. Edgar Frisby, Washington, D.C.....
407. B. E. Walker, Toronto99 St. George St.
408. Chas. W. Smiley, Washington, D.C.....
409. Prof. W. J. Ashley, TorontoToronto.
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AMERICAN ASSOCIATION

FOR THE

ADVANCEMENT OF SCIENCE,

Programme for Tuesday, September 3rd

OFFICERS NOMINATED

FOR THE

NEXT MEETING.

PRESIDENT.

GEORGE L. GOODALE, Cambridge, Mass.

VICE-PRESIDENTS.

- A.** *Mathematics and Astronomy*—S. C. CHANDLER, Cambridge, Mass.
- B.** *Physics*—CLEVELAND ABBE, Washington.
- C.** *Chemistry*—R. B. WARDER, Washington.
- D.** *Mechanical Science and Engineering*—JAMES E. DENTON, Hoboken, N.J.
- E.** *Geology and Geography*—JOHN C. BRANNER, Little Rock, Ark.
- F.** *Biology*—C. S. MINOT, Boston, Mass.
- H.** *Anthropology*—FRANK BAKER, Washington.
- I.** *Economic Science and Statistics*—J. RICHARDS DODGE, Washington.

PERMANENT SECRETARY.

F. W. PUTNAM, Cambridge, Mass. (Office : Salem, Mass.)

GENERAL SECRETARY.

H. CARRINGTON BOLTON, of New York.

SECRETARY OF THE COUNCIL.

JAMES LOUDON, Toronto.

SECRETARIES OF THE SECTIONS.

- A.** *Mathematics and Astronomy*—WOOSTER W. BEMAN, Ann Arbor, Mich.
B. *Physics*—W. LE CONTE STEVENS, Brooklyn, N. Y.
C. *Chemistry*—W. A. NOYES, Terre Haute, Ind.
D. *Mechanical Science and Engineering*—M. E. COOLEY, Ann Arbor, Mich.
E. *Geology and Geography*—SAMUEL CALVIN, Iowa City, Iowa.
F. *Biology*—JOHN M. COULTER, Crawfordsville, Md.
H. *Anthropology*—JOSEPH JASTROW, Madison, Wis.
I. *Economic Science and Statistics*—S. DANA HORTON, Pomeroy, Ohio.

TREASURER.

WILLIAM LILLY, of Mauch Chunk, Pa.

AUDITORS.

HENRY WHEATLAND, Salem, Mass.
THOMAS MEEHAN, Philadelphia, Pa.

MEMBERS OF THE COUNCIL FOR THE TORONTO MEETING.

Past Presidents—JAMES D. DANA, of New Haven ; JAMES HALL, of Albany ; J. S. NEWBERRY, of New York ; B. A. GOULD, of Cambridge ; T. STERRY HUNT, of Montreal ; JOSEPH LOVERING, of Cambridge ; J. E. HILGARD, of Washington ; SIMON NEWCOMB, of Washington ; O. C. MARSH, of New Haven ; GEORGE F. BARKER, of Philadelphia ; GEORGE J. BRUSH, of New Haven ; J. W. DAWSON, of Montreal ; C. A. YOUNG, of Princeton ; J. P. LESLEY, of Philadelphia ; H. A. NEWTON, of New Haven ; EDWARD S. MORSE, of Salem ; S. P. LANGLEY, of Washington ; J. W. POWELL, of Washington.

Vice-Presidents of the last Meeting—ORMOND STONE, of University of Virginia ; A. A. MICHELSON, of Cleveland ; C. E. MUNROE, of Newport ; C. J. H. WOODBURY, of Boston ; GEORGE H. COOK, of New Brunswick ; C. V. RILEY, of Washington ; CHARLES C. ABBOTT, of Trenton ; C. W. SMILEY, of Washington.

Officers of the Present Meeting—T. C. MENDENHALL, of Washington ; R. S. WOODWARD, of Washington ; H. S. CARHART, of Ann Arbor ; WILLIAM L. DUDLEY, of Nashville ; JAMES E. DENTON, of Hoboken ; CHARLES A. WHITE, of Washington ; GEORGE L. GOODALE, of Cambridge ; GARRICK MALLERY, of Washington ; CHARLES S. HILL, of Washington ; F. W. PUTNAM, of Cambridge ; C. LEO MEES, of Terre Haute ; H. CARRINGTON BOLTON, New York ; G. C. COMSTOCK, of Madison ; E. L. NICHOLS, of Ithaca ; EDWARD HART, of Easton ; W. R. WARNER, of Cleveland ; JOHN C. BRANNER, of Little Rock ; AMOS W. BUTLER, of Brookville ; W. M. BEAUCHAMP, of Baldwinsville ; J. R. DODGE, of Washington ; WILLIAM LILLY, of Mauch Chunk.

From the Association at Large—A fellow elected from each section. E. W. HYDE, of Cincinnati (**A**), W. A. ROGERS, of Waterville (**B**), H. W. WILEY, of Washington (**C**), CADY STALEY, of Cleveland (**D**), N. H. WINCHELL, of Minneapolis (**E**), W. H. DALL, of Washington (**F**), J. O. DORSEY, of Washington (**H**), JOSEPH CUMMINGS, of Evanstown (**I**)

ANNOUNCEMENTS OF THE LOCAL COMMITTEE.

RETURN TICKETS.

Get your railway certificates signed and stamped by the Secretary, Mr. W. R. Callaway. Office on right hand of main entrance of University. After 5 p.m. Tuesday Mr. Callaway can be seen at his office, No. 118 King St. West, (opposite the Rossin House).

EXCURSION TO THE HURONIAN COUNTRY.

Members and Associate Members of the Association who wish to join in a Geological Excursion to the Huronian Country after the adjournment of the General Session, on Tuesday night, are requested to give their names to the Secretary of Section E., or to Mr. W. R. Callaway of the R. R. Committee.

Train will leave Toronto at 11 o'clock Tuesday night, arrive at North Bay, 8.35 a.m. Wednesday. Breakfast at hotel. Leave for Sudbury at 9.55 a.m. Dinner on train. Arrive at Sudbury 1.12 p.m. ; devote afternoon to vicinity. Breakfast at hotel 6.30 a.m. Thursday. Leave by special train for Onaping at 7.30 a.m. ; examining rocks by the way, and arriving at Onaping at 7 p.m. Returning, leave Onaping at 7.30 p.m., Thursday ; reaching Toronto at 7.30 p.m. Friday. Members who intend going on this excursion will purchase their tickets to-day at the table of the R. R. Committee, entrance hall of the University. Owing to the generous provision made by the Local Committee, the price of the tickets is only \$8, which will cover nearly all the expense of the excursion.

THE TORONTO AMATEUR PHOTOGRAPHIC ASSOCIATION.

will be happy to place their rooms, in the Medical Council building, corner of Bay and Richmond streets, at the disposal of the members of, the Association during their stay in town.

CLUBS.

The Board of Directors of the National Club, Bay Street, near King, offer the privileges of the Club to the Members of the Association during their stay in Toronto.

The President and members of the Granite Club, 465 Church street, offer the privileges of the Club to the members of the Association during their visit to Toronto.

The President and members of the Royal Canadian Yacht Club offer the same privileges at their club house, on the Island. The steam launch leaves the foot of Lorne Street at the hour and half hour. Members of the Association will be taken over on production of their membership badge.

THE ENTOMOLOGICAL SOCIETY OF ONTARIO

Will hold their Annual Meeting in the Biological Laboratory (room over section F) at 11 a.m. Mr. James Fletcher, President of the Society will deliver the Annual Address.

OMNIBUSES

Will leave the Queen's Hotel, calling at the Rossin House, at 8.30, 9 and 9.30 for the University, returning between 5 and 6; fare for round trip, 25 cents.

[Special programmes will be issued every morning, except Saturday and Sunday.]

Programme for Tuesday, September 3.

Morning.

Meeting of the Council at 9 o'clock.

GENERAL SESSION at 10 o'clock.

Election of Officers and Agreement on time and place of Meeting for 1890.

General business.

Meeting of the Sections after the adjournment of the General Session.

Afternoon.

Meeting of the Sections at 2 o'clock.

Final adjournment of the Sections.

Garden party in Government House grounds, from 5 to 7 o'clock, tendered by the City Council and Citizens.

Evening.

GENERAL SESSION in Association Hall, Yonge Street, at 8 o'clock.

The Yonge Street cars pass the Queen's Hotel for Association Hall. Extra cars will leave the hotel at 7.30.

Concluding exercises and adjournment of the Association.

After the adjournment of the meeting there will be several excursions. For particulars see Notices of Local Committee. These excursions close the Thirty-eighth Meeting on September 7th.

SECTION A.—MATHEMATICS AND ASTRONOMY.

Vice-President—R. S. WOODWARD, of Washington.

Secretary—G. C. COMSTOCK, of Madison, Wis.

Member of the Council.

E. W. HYDE, of Cincinnati, Ohio.

Members of the Sectional Committee.

J. BURKITT WEBB, of HOBOKEN, N.J.

HENRY FARQUHAR, of Washington.

W.W. BEMAN, of Ann Arbor, Mich.

Member of the Nominating Committee.

CHARLES S. HOWE, Cleveland, O.

Members of the Sub-committee on Nominations.

H. A. NEWTON, of New Haven, Ct.

WILLIAM HARKNESS, of Washington.

J. R. EASTMAN, of Washington.

SECTION ADJOURNED MONDAY AFTERNOON.

SECTION B.—PHYSICS.

Vice-President—H. S. CARHART, of Ann Arbor, Mich.

Secretary—E. L. NICHOLS, of Ithaca, N.Y.

Member of the Council.

W. A. ROGERS, of Waterville, Me.

Members of the Sectional Committee.

W. LE CONTE STEVENS, Brooklyn, N.Y.

A. E. DOLBEAR, College Hill, Mass.

CHARLES CARPMAEL, Toronto.

Member of the Nominating Committee.

JAMES LOUDON, of Toronto.

Members of the Sub-Committee on Nominations.

E. W. MORLEY, Cleveland, Ohio

C. H. McLEOD, Montreal.

T. C. MENDENHALL, Washington.

PAPERS TO BE READ ON TUESDAY.

196. A mountain study of the spectrum of Aqueous Vapour.—25 min.—
By Charles S. Cook.
219. Experimental determination of the periodic pulsations of a Thermometer made of the new "Jena" glass.—By Wm. A. Rogers and J. B. Webb.
140. An exhibition of Photographs taken in 1864 of the Living Eye.
(a) The retinal vessels; (b) The retinal inverted image of an object placed in front of the eye.—8 min.—By A. M. Rosebrugh.
214. An exhibition of Photographs of the Fundus of the Eye of the Cat, taken while under the influence of Chloroform.—5 min.—By A. M. Rosebrugh.
170. A mode of suspension for Foucault's Pendulum.—5 min.—By R. B. Fulton.

SECTION C.—CHEMISTRY.*Vice-President*—WILLIAM L. DUDLEY, of Nashville, Tenn.*Secretary*—EDWARD HART, of Easton, Pa.*Member of the Council.*

HARVEY W. WILEY, of Washington, D.C.

Members of the Sectional Committee.

H. H. NICHOLSON, of Lincoln, Neb.

F. W. CLARKE, of Washington, D.C.

IRA REMSEN, of Baltimore, Md.

Member of the Nominating Committee.

A. P. S. STUART, of Lincoln, Neb.

Members of the Sub-committee on Nominations.

H. C. BOLTON, of New York City.
A. B. PRESCOTT, of Ann Arbor, Mich.
W. A. NOYES, of Terre Haute, Ind.

PAPERS TO READ ON TUESDAY.

208. Jadeite and Nephrite.—15 min.—L. P. Kinnicutt.

Continuation of the Discussion upon the report of the Committee upon
the Spelling and Pronunciation of Chemical Terms.

SECTION D.—MECHANICAL SCIENCE AND ENGINEERING.

Vice-President—JAMES E. DENTON, of Hoboken, N.J.
Secretary—W. R. WARNER, of Cleveland, Ohio.

Member of the Council.

CADY STALEY, of Cleveland, Ohio.

Members of the Sectional Committee.

O. CHANUTE, of Kansas City, Mo.
M. E. COOLEY, of Ann Arbor, Mich.
C. H. SMITH, of Austin, Texas.

Members of the Sub-committee on Nominations.

J. GAILBRAITH, Toronto.
A. E. DOLBEAR, College Hill, Mass.
THOMAS GRAY, Terre Haute, Ind.

ADJOURNED FRIDAY AFTERNOON.

SECTION E.—GEOLOGY AND GEOGRAPHY.

Vice-President—CHARLES A. WHITE, of Washington.

Secretary—JOHN C. BRANNER, of Little Rock, Ark.

Member of the Council.

[N. H. WINCHELL, of Minneapolis, Minn.

Members of the Sectional Committee.

ALEXANDER WINCHELL, of Ann Arbor, Mich.

H. L. FAIRCHILD, of Rochester, N.Y.

I. C. WHITE, of Morgantown, West Va.

Member of the Nominating Committee.

G. K. GILBERT, of Washington.

Members of the Sub-committee on Nominations.

C. D. WALCOTT, of Washington.

R. T. HILL, of Austin, Texas.

W. J. MCGEE, of Washington.

PAPERS TO BE READ ON TUESDAY.

132. Note on the Mapping of the Archæan North-west of Lake Superior—10 min.—By A. C. Lawson.
133. On the Structural and Chemical Differentiation of certain Dykes of the Rainy Lake Region—20 min.—By A. C. Lawson.
162. Natural Gas in Fredonia, N.Y.—15 min.—By H. T. Fuller.
190. The Petroleum Belt of Terre Haute—10 min.—By C. A. Waldo.
161. Preservation of Glaciated Rocks in Worcester, Mass.—5 min.—By H. T. Fuller.
167. Two new Faunas from the Lower Cretaceous Formation of Texas.
(a) Caprina Limestone Fauna. (b) The Shoal Creek Limestone Fauna—5 min.—By R. T. Hill.
168. On the Origin of Diagonal Trends in the Earth's Crust—15 min.—By D. S. Martin.

173. Casts of Scolithus Flattened by Pressure—5 min.—By A. Wanner.
169. Origin of Boulder Pavements and Fringes—10 min.—By J. W. Spencer.
210. Section of the Makoqueta Shales in Iowa—10 min.—By J. F. James.
222. The History of the formation of the Great Lakes—20 min.—By J. S. Newberry.
41. The Moraines of the Wasbash—Erie Region—8 min.—By C. R. Dryer.
42. The Irondequoit Glacier—7 min.—By C. R. Dryer.
128. The Mastodon of Kent and what we know about it—15 min.—By Ed. Jones, Esq.

SECTION F.—BIOLOGY.

Vice-President—GEORGE L. GOODALE, of Cambridge, Mass.
Secretary—A. W. BUTLER, of Brookville, Ind.

Members of the Council.

W¹ H. DALL, of Washington, D.C.

Members of the Sectional Committee.

A. J. COOK, of Lansing, Mich.
 T. J. BURRILL, of Champaign, Ill.
 D. H. CAMPBELL, of Bloomington, Ind.

Member of the Nominating Committee.

W. J. BEAL, of Lansing, Mich.

Members of the Sub-committee on Nominations.

L. O. HOWARD, of Washington, D. C.
 D. F. DAY, of Buffalo, N. Y.
 C. E. BESSEY, of Lincoln, Neb.

PAPERS TO BE READ ON TUESDAY.

191. Revision of the United States Species of *Fuirena*—10 min.—Fred. V. Coville.
155. A Bacterial Disease of Indian Corn—15 min.—T. J. Burrill.
205. An observation on *Calamintha Nuttallii*—5 min.—David F. Day.
206. Fermentation of Ensilage—15 min.—T. J. Burrill.
221. The Palæontological Evidence for the Transmission of Acquired Characters—10 min.—Henry F. Osborne.
207. Modern Teaching Appliances in Biology—30 min.—R. Ramsay Wright.
225. On a convenient method of subjecting living cells to Coloring Agents—15 min.—George L. Goodale.
226. Notes on the local distribution of some birds—5 min.—A. W. Butler.
55. The Relation between Temperature and the number of Vertebæ in Fishes—10 min.—D. S. Jordan.
56. The History and Migration of the American Crow in Nebraska—10 min.—W. Edgar Taylor.

SECTION H.—ANTHROPOLOGY.

Vice-President—GARRICK MALLERY, of Washington.

Secretary—W. M. BEAUCHAMP, of Baldwinsville, N. Y.

Member of the Council,

J. O. DORSEY, of Washington.

Members of the Sectional Committee.

H. W. HENSHAW, of Washington.

C. C. ABBOTT, of Trenton, N. J.

JOSEPH JASTROW, of Madison, Wis.

Member of the Nominating Committee.

WM. H. HALE, of Albany, N. Y.

Members of the Sub-committee on Nominations.

A. F. CHAMBERLAIN, of Toronto.

L. C. WURTELE, of Acton Vale, Quebec.

G. P. THRUSTON, of Nashville, Tenn.

PAPERS TO BE READ ON TUESDAY.

227. Results of Explorations about the Serpent Mound of Adams Co., Ohio, for which a grant was made by the Association.—20 min.—F. W. Putnam.
71. Aboriginal Monuments of North Dakota.—30 min.—Henry Montgomery.
86. Little Falls Quartzes.—20 min.—Franc E. Babbitt.
76. A Mississagua Legend.—15 min.—A. F. Chamberlain.
92. Places of Gentes in Siouan Camping Circles.—20 min.—J. O. Dorsey.
91. Onomatopes, Interjections, etc.—45 min.—J. O. Dorsey.
68. Ancient Pit Dwellers of Yezo.—15 min.—R. Hitchcock.
174. Steatite Ornaments from the Susquehanna River.—5 min.—Atrous Wanner.
213. Notes on the Eskimo of Cape Prince of Wales, Hudson's Strait.—15 min.—F. F. Payne.
66. Contents of Children's Minds.—10 min.—Harlan H. Ballard.
94. The Accads.—30 min.—Virginia H. Bowers.

SECTION I.—ECONOMIC SCIENCE AND STATISTICS.

Vice-President—CHARLES S. HILL, of Washington.

Secretary—J. R. DODGE, of Washington.

Member of Council.

Joseph CUMMINGS, Evanston, Ill.

Members of the Sectional Committee.

W. O. ATWATER, Middletown, Conn.

W. R. LAZENBY, Columbus, Ohio.

Lester F. WARD, Washington, D.C.

Member of the Nominating Committee.

Henry FARQUHAR, Washington, D.C.

Members of the Sub-committee on Nomination.

B. E. FERNOW, Washington, D.C.

Gustav LINDENTHALL.

Geo. ILES, Toronto.

PAPERS TO BE READ ON TUESDAY.

218. A Plan for the Census of Fisheries.—20 min.—Chas. W. Smiley.
184. Inutility of the Desert Land Act.—12 min.—J. R. Dodge.
223. How shall we Protect our Forests.—20 min.—R. W. Phipps.
142. Statistical Results of Examination of the Eyesight of Five Thousand School Children.—20 min.—Dr. G. Sterling Byerson.
150. The scientific application of heat to the cooking of food.—30 min.—Edward Atkinson.
228. Relation of Manual Training to Body and Mind.—40 min.—C. M. Woodward.
224. Concluding Remarks upon the Economic and Sociologic Relations of Canada and the United States.—15 min.—Charles S. Hill.

FELLOWS ELECTED.

- Arey, Albert L., Rochester Free Academy, Rochester, N.Y. (35) **B C**
- Ashley, Prof. W. J., Toronto, Ont. (38) **I**
- Avery, Elroy M., Cleveland, O. (37) **B**
- Bailey, Prof. E. H. S., University of Kansas, Lawrence, Kansas (25) **B**
- Battle, A. B., Director Agricultural Experimental Station, Raleigh (33)
N. C. **C**
- Baur, Dr. George, New Haven, Conn. (36) **F**
- Bell, Robert, M.D., LL.D., Assistant Director, Geol. Survey of Canada,
Ottawa (38). **E**
- Bennett, Wm. Z., Prof. Chemistry, University of Wooster, O. (33) **C**
- Blake, J. C., Mansfield Valley, Pa. (29) **C**
- Bryce, George, LL.D., Manitoba College, Winnipeg, Man. (38).
- Burgess, Dr. Thomas J. W., Hamilton, Ont. (38).
- Calvin, Prof. Samuel, State University of Iowa, Iowa City, Iowa. (37)
B E
- Carpenter, Louis G., Fort Collins, Colorado (32) **A B**
- Chute, Horatio N., Instructor of Physics, High School, Ann Arbor, Mich.
(34) **A B**
- Colburn, E. M., Peoria, Ill. (33) **H**
- Cook, Chas. Sumner, Prof. of Physics, Northwestern University, Evans-
town, Ill. (36) **B**
- Crawford, Morris B., Prof. of Physics, Wesleyan University, Middletown,
Conn. (30) **B**
- Dawson, Dr. George M., Assistant Director Geol. Survey, Ottawa
(38). **E**
- Ellis, Dr. W. H., Prof. of Chemistry, School of Practical Science, Toronto.
Ont. (38). **C**
- Ewing Thomas, Jr., Columbia College, New York, N.Y. (36) **B**
- Eyerman, John, Instructor in Mineralogy, Lafayette College, Easton,
Pa. (33) **C**
- Floyd, Richard S., 120 Sutter Street, San Francisco, Cal. (34) **A**
- Gaffield, Thos., Boston, Mass. (29) **C**
- Galbraith, John, Prof. of Engineering, University of Toronto, Toronto.
Ont. (38) **B**
- Goff, Prof. E. S., Madison, Wis. (35) **F**

- Gray, Thos., B. Sc., Prof. of Dynamic Engineering at Rose Polytechnic Inst., Terra Haute, Ind. (38) **B D**
- Haines, Reuben, Germantown, Philadelphia, Pa. (27) **C**
- Harrington, H. H., Prof. of Chemistry at Agricultural College, College Station, Texas (35). **C**
- Hay, Prof. O. P., Butler University, Irvington, Ind. (37) **F**
- Horton, I. Dana, Washington, D.C. (37) **I**
- Howard, L. O., Asst. Entomologist, Dept. of Agriculture, Washington, D.C. (37) **F**
- Jacobus, Prof. David S. Stevens' Institute, Hoboken, N.J. (37) **D A**
- Klotz, Otto Julius, Field Astronomer, Dominion Government, Preston, Ont. (38) **A**
- Ladd, E. J., Agricultural Experimental Station, Geneva, N.Y. (36) **C**
- Lloyd, Mrs. Rachel, Ph.D., Prof. of Analytical Chemistry, Lincoln, Neb. (34) **C**
- Loeb, Morris, Ph. D., New York (36) **C**
- London, Prof. J., Prof. of Physics, University of Toronto, Toronto, Ont. (38) **B**
- Macallum, Archibald B., Lecturer on Physiology, University of Toronto, Toronto, Ont. (38) **F**
- McCreath, A. S., Harrisburg, Pa. (33) **C**
- Meek, Seth E., —————, Illinois (35) **F**
- Morgan, F. H., Ithaca, N.Y. (35) **C**
- Moser, Jeff. F., Lieut. U.S.N. Coast Survey, Washington, D.C. (28) **E**
- Myers, Jno. A., Prof. of Chemistry, Agricultural College, Oktibbeha Co., Miss. (30) **C**
- Novy, F. G., University of Michigan (36) **C**
- Osmond, I. Thornton, Prof. of Physics, State College, Centre Co., Pa. (33) **B**
- Palmer Prof. Chace, Ph. D., Prof. of Chemistry, Wabash College, Ind. (38) **C**
- Peters, Edward T., Agricultural Dept., Washington, D.C. (33) **I**
- Phillips, Francis C., Western University, Alleghany, Pa. (36) **C**
- Preston, E. D., U. S. C. and G. Survey, Washington, D.C. (37) **A E**
- Reid, Henry F., Prof. of Physics, Case School of Applied Science, Cleveland, O. (36) **B**
- Robinson, T. C., Prof. of Chemistry, Bowdoin College, Brunswick, Me. (29) **C**
- Selwyn, Alfred R. C. Dr., Director of Geol. Survey of Canada, Ottawa (38) **E**
- Shimer, Poeter W., Easton, Pa. (38) **C**
- Shutt, Frank T., M.A., Dominion Experimental Farms, Ottawa, Ont. (38) **C**

- Smith, Edgar F., Ph. D., Prof. of Chemistry, University of Pa., Philadelphia (33) **C**
- Snow, Benj. W., Cornell University, Ithaca, N.Y.
- Spencer, G. L., Depart. of Agriculture, Washington, D.C. (36) **C**
- Stoddard, John T., Prof. of Chemistry, Smith College, Northampton, Mass. (35) **C**
- Taylor, Capt. H. O., U.S.N. (30) **I**
- Traphagen, F. W., Ph. D., Prof. of Chemistry, College of Montana, Deer Lodge, Mon. (35) **C**
- Trimble, Dr. Henry, Prof. of Chemistry, School of Pharmacy, Philadelphia, Pa. (34) **C**
- Vasey, George, M.D., Dept. of Agriculture, Washington, D.C. (32) **F**
- Von Schweinitz, E. A., Ph.D., Salem, N.C. (36) **C**
- Waldo, C. A., Rose Polytechnic Institute, Terre Haute, Ind. (37) **H**
- Ward, William E., Port Chester, N.Y. (36) **D**
- Willis, Bailey, U. S. Geol. Survey, Washington, D.C. (36) **E**
- Wilson, William Powell, University of Pa., Philadelphia, Pa. (38) **F**
- Wright, Prof. R. Ramsay, Toronto, Ont. (38) **F**
- Wright, Thos. W., Union College, Schenectady, N.Y. (36) **B**
- Youmans, Wm. Jay, 1 Bond St., New York, N.Y. (28) **C F H**

MEMBERS ELECTED.

August 27, 1889.

1. Henry C. Appleton, Publisher, 1 Bond St., New York. **E I**
2. Ad. F. Bandelier, Santa Fe, N. M. **H**
3. William D. Boardman, 38 Kenilworth St., Roxbury, Mass. **E**
4. Prof. Theo. Brantly, College of Montana, Deer Lodge, Mont. T. **H I**
5. Prof. Wm. T. Brooks, Mass. Agric. College, Amherst, Mass. **C F**
6. Prof. George Bryce, LL.D., Manitoba College, Winnipeg, Manitoba. **H**
7. Capt. Thos. L. Casey, U. S. Engineer, Army Building, New York, N. Y. **F**
8. Alexander F. Chamberlain, 34 Arthur St., Toronto, Ont. **H**
9. Royal Tyler Church, Turin, Lewis Co., N. Y. **D F**
10. William A. Croffut, U. S. Geological Survey, Washington. **H I**
11. Susan J. Cunningham, Prof. of Mathematics and Astronomy, Swarthmore College, Swarthmore, Pa. **A**
12. John Daniel, Instructor in Physics, Vanderbilt Univ., Nashville, Tenn. **B**
13. John M. Davison, 60 Oxford St., Rochester, N. Y. **C**
14. Luther M. Donaldson, care National Fertilizer Co., Nashville, Tenn. **C**
15. Fred. James Dorand, Chester, Vt. **A I**
16. W. A. Douglass, B.A., 220 Wellesley St., Toronto, Ont. **I**
17. Charles Redway Dryer, Assistant Indiana State Geological Survey, Fort Wayne, Ind. **E**
18. Frank E. Emery, Geneva, Ontario Co., N. Y. **F**
19. Howard V. Frost, Prof. of Chemistry in the Brooklyn Polytechnic Institute, Arlington, Mass. **C A B**
20. Edwin Brant Frost, Inst. in Astronomy and Physics, Dartmouth Col., Hanover, N. H.
21. Rev Otis Allan Glazebrook, D.D., Elizabeth, N. J.
22. G. K. Greene, New Albany, Ind. **E F**
23. Thos. Gray, Prof. Dynamic, Engineering, Rose Polytechnic Inst., Terre Haute, Ind.
24. James Cleland Hamilton, M.A., LL.B., Toronto, Ont.
25. Rev. Gottlieb C. H. Hasskarl, Syracuse, N. Y.
26. John Beazley Hastings, Mining Engineer, Ketchum Allatugas Co., Idaho. **E**

27. John Blackstock Hawley, Engineer of St. Paul Water-Works, St. Paul, Minn. **B**
28. Walter J. Hoffman, M.D., Bureau of Ethnology, Washington, D.C. **H**
29. Lewis E Hood, E. Somerville, Mass. **F**
30. Thomas Hopkins, Assistant Geological Survey of Arkansas, Little Rock, Ark. **E**
31. Walter Hough, Ass't Department of Ethnology, U. S. National Museum, Washington, D.C. **H**
32. James T. Hoyt, Temple Court, Beekman St., New York. **A H**
33. Andrew F Hunter, Barrie Ont. **B H**
34. Dr. John Amory Jeffries, 91 Newbury St., Boston, Mass. **F**
35. Thos. Moore Jackson, C.E., Prof. Civil Engineering, W. Va. University, Morgantown, W. Va.
36. J. Floyd King, New York Hotel, New York, N.Y. **D**
37. Otto Julius Klotz, Field Astronomer, Dominion Governm't, Preston, Ont.
38. William Roscoe Livermore, Maj. of Eng., U. S. A., Newport, R.I. **C**
39. Alan Macdougall, F. R. S., Edin., Toronto, Ont. **D H**
40. Jos. E. McDougall, Maritime Court, 121 Carleton St., Toronto, Ont.
41. Charles E. McGowan, M.D., New London, Conn. **E**
42. Rev. John McLean, M.A., Ph.D., Macleod, Alberta, Can.
43. Alexander Chas. McKay, Mathematical Master, Upper Canada College, Toronto.
44. Artemas Martin, Librarian and Custodian of Archives, Coast Survey Office, Washington, D.C. **A**
45. Charles C. Mellon, Vice-Pres. Iron City Microscopical Society, Pittsburgh, Pa. **F**
46. Wm Hamilton Merritt, 40 St. George street, Toronto. **E I**
47. Cosmos M indeleff, Bureau of Ethnology, Washington, D.C. **H**
48. Victor Mindeleff, Bureau of Ethnology, Washington, D.C. **H**
49. James Mooney, Bureau of Ethnology, Washington, D.C. **H**
50. Frank Newton Notestein, Prof. of Mathematics and Astronomy, The College of Montana, Deer Lodge, M.T. **A F**
51. George D. Olds, Prof. of Mathematics, Univ. of Rochester, Rochester, N. Y. **A**
52. Frank Owen Payne, Teacher of Science, Appleton, Minn. **F**
53. Dr. R. A. F. Penrose, jr., State Geological Survey, Little Rock, Ark. **E**
54. Ernest B. Perry, Ann Arbor, Mich. **D**
55. George H. Peters, Hartford, Conn. **A B**

56. Eben Putnam, Boston, Mass. **HI**
57. James Cochrane Quinn, Prof. of Mental and Moral Philosophy,
National Univ., Chicago, Helena, Montana. **EFHI**
58. Taylor Reed, Princeton, N.J. **A**
59. A. H. Russell, Captain of Ordnance, U.S.A., Providence, R.I. **D**
60. Harris J. Ryan, Asst. Prof. of Electrical Engineering, Cornell
Univ., Ithaca, N.Y. **B**
61. George S. Ryerson, M.D., 60 College Ave., Toronto, Ont. **F**
62. Wm. H. Seaman, Prof. Analytical Chemistry, School of Mines,
Univ. of Missouri, Rolla, Mo.
63. G. N. Saegmuller, Washington, D.C. **AB**
64. John R. Scupham, C. & M. Engineer, Oakland, Cal. **E**
65. Dilman B. Shantz, Berlin, Ont. **I**
66. Porter W. Shimer, E.M., Easton, Pa. **C**
67. Frank T. Shutt, M.A., Chemist to the Dominion Experimental
Farms, Ottawa, Ont. **C**
68. De Cost Smith, Skaneateles, N.Y. **H**
69. Joseph B. Stearns, Camden, Maine. **B**
70. Francis L. Stewart, Murraysville, Pa. **CF**
71. Henry Newlin Stokes, Ph. D., Chemical Laboratory, U.S. Geo-
logical Survey, Washington, D.C. **CE**
72. Charles Stuart Street, 38 Kenilworth St., Roxbury, Mass. **EC**
73. Charles B. Thwing, Instructor in Physics, North-Western Univ.,
Evanston, Ill. **B**
74. Gerritt E. H. Weaver, Instructor in Swarthmore College, Swarth-
more, Pa. **F**
75. Miss Nellie B. West, 56 W. 55th St., New York, N.Y. **E**
76. Prof. T. R. White, 353 W. 57th St., New York, N.Y. **HA**
77. Prof. W. P. Wilson, 640 North 32nd St., Philadelphia, Pa. **F**
78. S. Grant Wright, Perryville, Ind. **F**
79. Harrison Garman, Entomologist and Botanist, State Exper. Station,
Lexington, Ky. **F**
80. Prof. John W. Hartigan, W. Va. University, Morgantown, W
Va. **F**
81. Chs. W. Hastings, Kansas City, Mo. **B**
82. Wm. Houston, Govt Library, Toronto, Ont. **I**
83. Walter Hough, Nat. Museum, Washington, D.C. **H**
84. James Gibson Hume, Univ. College, Toronto. **I**
85. Herbert G. Ogden, U.S. Coast and Geodetic Survey, Washington,
D.C. **AB**
86. Frank Fitz Payne, Meteorological Office, Toronto. **B**
87. James H. Pearce, Toronto, Ont. **F**
88. John Edward White, Toronto, Ont. **F**

89. James G. Witton, University College, Toronto, Ont. **B**
90. Prof. R. Ramsay Wright, Toronto, Ont. **F**
91. Prof. Chs. W. Hargitt, Oxford, Ohio.
92. John H. Means, Geological Survey, Little Rock, Ark. **E**
93. William Kennedy, Geological Survey, Little Rock, Ark. **E H**
94. Leon Stacy Griswold, Geol. Survey, Little Rock, Ark. **E**
95. Thos. Hopkins, Geol. Survey, Little Rock, Ark. **E**
96. Dr. Andrew C. Lawson, Ottawa, Canada. **E**
97. John Perrin, Mount Royal Park, Montreal. **B**
98. F. W. Kuhne, Fort Wayne, Ind.
99. A. Isabel Mulford, Orange, N.J. **F**
100. John Galbraith, Prof. Civil Engineering, Toronto. **A**
101. Archibald Hope Young, Upper Canada College, Toronto. **H**
102. Henry H. Wing, Cornell Univ. Expt. Station, Ithaca, N. Y.
103. Gates P. Thruston, Nashville, Tenn **H**
104. Clarence M. Weed, Ohio Expt. Station, Columbus, O. **F**
105. William Macdonald Toronto, Ont.
106. Thomas Shortiss, Toronto, Ont. **D E**
107. Pêter Bryce, Sec'y Board of Health, Toronto, Ont. **F H**
108. Archibald B. Macallum, University College, Toronto, Canada.
109. W. Reynolds Singleton, Washington. **H**
110. Dr. Thomas J. W. Burgess, Hamilton, Ont **F**
111. Asaph Hall, Jr., U. S. Naval Observatory, Washington **A**

Wednesday, August 28.

112. Cortez Fessenden, Wapanee, Ont.
113. William Wallace Campbell, Instructor in Astronomy, University of Michigan, Ann Arbor, Mich. **A**
114. Alexander Ziwet, Ann Arbor, Mich. **A**
115. W. A. Burmace, Winnipeg.
116. David Reid Keys, University College, Toronto. **H**
117. Prof. Thomas H. McBride, State Univ. of Iowa, Iowa City. **F**
118. Dr. Alfred R. C. Selwyn, Director of Geological Survey of Canada, Ottawa. **E**.
119. Chase Palmer, Prof. of Chemistry, Wabash College, Crawfordsville, Ind. **C**
120. Prof. Samuel T. Maynard, Prof. Botany, Massachusetts Agri. Coll., Amherst, Mass. **F**
121. Curtis C. Howard, Prof. of Chemistry Starling Medical College, Columbus, Ohio. **C**
122. Eugene H. Roberts, University of Mississippi, Oxford, Miss.
123. Allen D. Risteen, Hartford, Connecticut. **A B D**

124. Edward B. Shuttleworth, Dean of Ontario College of Pharmacy. **C**
125. William Knox, Architect, 13 Victoria St., Toronto, Ont.
126. Simeon H. Janes, M.A., Toronto, Ont. **A E**
127. W. R. Head, Hyde Park, Chicago, Ill.
128. G. C. Creelman, Acting Prof. of Biology, Agricultural College, Mississippi.
129. J. E. Graham, M.D., Toronto, Ont. **F**
130. W. S. Blackstock, 20 Homewood Ave., Toronto, Ont. **H**
131. Chas. Gibson, D.Sc., Chicago, Ill. **C**
132. Wm. H. Weldon, M.D., Chicago, Ill. **F H**
133. Orange Merwin, Bridgeport, Conn. **E**
134. Adam Capen Gill, Northampton, Mass. **E**
135. George Bruce Halsted, Prof. of Mathematics, University of Texas, Austin, Texas. **A**
136. Marcus P. Norton, 50 Broadway, New York.
137. Alexander D. Anderson, Washington, D.C.
138. John Uri Lloyd, Pharmaceutical Chemist, Court and Plum Streets, Cincinnati, Ohio. **C F**
139. Clinton Owen Bates, Prof. Chemistry in Coe College, Cedar Rapids, Iowa.
140. Mary Townsend Sharpless Schaffer, 1309 Arch St., Philadelphia, Pa. **F E**
141. John H. Talbutt, Lexington, Kentucky.
142. James F. W. Ross, M.D., C.M., Sherbourne and Wellesley Sts. Toronto, Ont.
143. Robert Allen Thompson, Mathematical Master, Hamilton College Institute, Hamilton, Ont. **A**
144. T. D. Ledyard, 4 Ontario Chambers, Toronto, Ont.
145. W. T. Jennings, Civil Engineer, Toronto, Ont. **D**
146. Byron Edmund Walker, Toronto, Ont. **E**
147. Norman B. Wood, Jr., 67½ University St., Cleveland, Ohio.
148. William H. Jenks, Brookville, Pa. **D**
149. Andrew Smith, F. R. C. V. S., Toronto, Ont. **F**
150. Arthur B. Willmott, Antioch College, Yellow Springs, Ohio
151. Amos R. Wells, Antioch College, Yellow Springs, Ohio.
152. A. M. Roseburgh, M.D., Church St., Toronto Ont.
153. George Burchutt Abney, Toronto, Ont. **D**
154. W. E. Boustead, Toronto, Ont. **C**
155. J. N. Whitney, Chief Clerk U. S. Bureau of Statistics, Washington, D.C. **I**
156. Goldsmith B. West, Birmingham, Alabama. **E**
157. George Bruce Halstead, Prof. of Math., Univ. of Texas. Austin, Texas. **A**

158. Robert Bell, M.D., LL.D., Asst. Director Geological Survey of Canada, Ottawa. **F E**
159. Warren K. Moorehead, Smithsonian Institution, Washington, D.C. **H**
160. C. C. Mellor, Pittsburgh, Pa. **B**
161. Charles P. Bennis, Schenectady, N.Y. **D**
162. C. H. Smyth, jr., Ph.B., Clinton, N.Y. **E**
163. E. Renel Smith, Skaneateles, N.Y.
164. Dr. George M. Dawson, Asst. Director Geological Survey of Canada, Ottawa. **E H**
165. James Foster, 13 King St. West, Toronto. **B**
166. Malcolm MacVicar, Chancellor MacMaster University, Toronto. **A**

Thursday, August 29th.

167. W. J. Ashley, Prof. of Political Economy in the University of Toronto, Toronto. **I**
168. Henry Symons, 4 Howard St., Toronto.
169. Arthur G. Clement, Supt. New York State Inst. for the Blind.
170. W. Theophilus Stuart, 197 Spadina Ave., Toronto. **C**
171. Mrs. Helen R. Taylor, 230 Parliament St., Toronto.
172. Frank Julian, Chicago, Ill. **C**

Friday, August 30th.

173. Mungo Turnbull, 18 Dennison Sq., Toronto. **A E**
174. George B. Sweetnam, 152 Carleton St., Toronto. **C**
175. Thos. S. Fiske, Ph. D., Columbia College, New York. **A**
176. L. H. Jacoby, Columbia College, New York. **A**
177. John Cameron, Publisher, Toronto. **I**

Monday, September 2nd.

178. James Bain, jr., Toronto, Ont. **H**
179. N. G. Bigelow, Toronto, Ont.
180. Howard B. Gibson, Middletown, Conn. **C**
181. Charles D. Woods, Middletown, Conn. **C**

- 182. J. O. Miller, Bishop Ridley College, of St. Catharines, Canada **H**
- 183. Walter Lee Brown, B.S C., Evanstown, Ill.
- 184. Herman Schmidt, Chicago, Ill.
- 185. David Wesson, Chicago, Ill.
- 186. Joseph B. Weir, Chicago, Ill. **C**
- 187. John Rogers, Port Sandfield, Ont. **D**
- 188. William A. Childs, M.D., Toronto. **CHC**
- 189. J. H. Herdon, State Geological Survey, Austin, Texas. **E**
- 190. Hon. Stephen B. Mallory, Pensacola, Florida. **I**
- 191. Hon. H. A. Brown, Saxonville, Mass. **I**
- 192. Hon. S. Y. Tupper, Charleston, S. C. **I**
- 193. Hon. Wm. Lawrence, Bellefontaine, Ill. **I**
- 194. Hon. R B. Porter, Washington, D. C. **I**
- 195. Prof. H. G. Warner, University of Nebraska, Lincoln, Neb. **I**
- 196. Hon. Joseph Mimmo, jr., Huntington, Long Island, N.Y. **I**
- 197. Wm. Franklin Corton, New York. **I**
- 198. Wm. A. Vanderbilt, New York. **I**
- 199. W. W. Bates, Buffalo, N.Y. **I**

LIST OF MEMBERS AND ASSOCIATES

IN ATTENDANCE AT THE MEETING.

[Additional arrivals will be given in the Programme for each day.]

Tuesday, August 27th.

Number of Register and Badge.	City Address.
1. T. C. Mendenhall, Washington, D.C.....	Queen's Hotel.
2. F. W. Putnam, Cambridge, Mass.	Queen's Hotel.
3. Charles C. Abbott, Trenton, N.J.....	Queen's Hotel.
4. James Loudon, Toronto.....	83 St. George St.
5. Charles Carpmael, Toronto	Dale Ave.
6. James D. Dana, New Haven, Conn.....	Queen's Hotel.
7. Sir Daniel Wilson, Toronto.....	46 St. George St.
8. C. A. White, Washington, D.C.....	Queen's Hotel
9. Henrietta L. T. Wolcott, Dedham, Mass.....	467 Spadina Ave.
10. J. J. Stevenson, Univ. of City of New York....	Queen's Hotel.
11. Samuel Calvin, Iowa City.....	Metropole Hotel.
12. W. M. Beauchamp, Baldwinsville, N.Y.....	Metropole Hotel
13. N. H. Winchell, Minneapolis.....	
14. Charles B. Gibson, Chicago	575 Church St.
15. H. D. Garrison, Chicago	Walker House.
16. Herman L. Fairchild, Rochester, N.Y.....	29 Grange Ave.
17. Mrs. H. L. Fairchild, Rochester, N.Y.....	29 Grange Ave.
18. Daniel S. Martin, New York.....	29 Grange Ave.
19. A. E. Douglass, New York.....	Rossin House.
20. Edward Hart, Easton, Pa.....	Rossin House.
21. Mrs. Edward Hart, Easton, Pa.....	Rossin House.
22. H. W. Wiley, Washington, D.C.....	Rossin House.
23. Mrs. Nellie S. Kedzie, Manhattan, Kan.....	Queen's Hotel.
24. E. Lewis Sturtevant, South Framingham, Mass..	Queen's Hotel.
25. T. J. Burrill, Champaign, Ill....	79 Shuter St.
26. Charles H. Smith, Austin, Tex.....	333 Church St.
27. William Frear, State College, Pa.....	Queen's Hotel.

28. Fred. V. Coville, Washington, D.C.....Queen's Hotel.
29. Horatio N. Chute, Ann Arbor, Mich.....44 Hayden St.
30. George L. English, Philadelphia, Pa.....580 Church St.
31. M. A. Scovell, Lexington, Ky.....Rossin House.
32. Edward Goldsmith, Philadelphia, Pa.....Club.
33. A. W. Vogdes, Fort Hamilton, N.Y. Har....Queen's Hotel.
34. Mrs. A. W. Vogdes, Fort Hamilton, N.Y. Har..Queen's Hotel.
35. A. J. Cook, Agricultural College, Mich.....31 College Ave.
36. Benjamin W. Snow, Ithaca, N.Y.....
37. A. S. Tiffany, Davenport, Iowa.....International Hotel.
38. John A. Myers, Morgantown, W. Va.....Rossin House.
39. H. Carrington Bolton, New York.....Queen's Hotel.
40. I. C. White, Morgantown, W. Va.....Queen's Hotel.
41. B. E. Fernow, Washington, D.C.....Rossin House.
42. John C. Branner, Little Rock, Ark.....Queen's Hotel.
43. N. C. Husted, Tarrytown-on-Hudson, N.Y....Walker House.
44. William H. Dall, Washington, D.C.....Queen's Hotel.
45. H. H. Nicholson, Lincoln, Neb.....Queen's Hotel.
46. David F. Day, Buffalo, N.Y.....Queen's Hotel.
47. Mrs. David F. Day, Buffalo, N.Y.....Queen's Hotel.
48. Robert T. Hill, Austin, Tex.....Queen's Hotel.
49. Mrs. Robert T. Hill, Austin, Tex.....Queen's Hotel.
50. Elroy M. Avery, Cleveland, O.....Queen's Hotel.
51. William L. Dudley, Nashville, Tenn.....Queen's Hotel.
52. D. W. Prentiss, Washington.. Queen's Hotel.
53. C. Leo Mees, Terre Haute Ind.....Queen's Hotel.
54. Miss Ella Eaton, Northampton, Mass.....
55. G. Frederick Wright, Oberlin, Ohio.....86 Charles St.
56. P. N. Schuyler, Bellevue, Ohio.....Walker House.
57. James Lewis Howe, Louisville, Kentucky....25 Murray St.
58. Miss Katie M. Dudek, New York.....29 Grange Ave.
59. Dr. Jeannette B. Greene, New York.....Lake View House.
60. J. C. Arthur, La Fayette, Ind.....
61. R. C. Kedzie, Lansing, Mich.....Queen's Hotel.
62. Samuel W. Very, Annapolis, Md.....Keachie's Hotel.
63. G. N. Merryweather, Cincinnati, O.....Walker House.
64. G. C. Broadhead, Columbia, Mo.....Walker House.
65.
66. L. O. Howard, Washington, D.C.....
67. Mrs. Esther Herrman, New York.....Queen's Hotel.
68. Edgar L. Larkin, Galesburg, Ill.....
69. Mrs. J. R. Dodge, Washington, D.C.....Queen's Hotel.
70. J. Richards Dodge, Washington, D.C.....Queen's Hotel.

71. John B. Tweedale, St. Thomas, Ont.....
72. William Saunders, Ottawa, Ont.....Rossin House
73. Walter F. Ferrier, New Brunswick, N.J.174 Carlton St.
74. William H. Seaman, Washington, D.C.....40 Ann St.
75. Thomas Taylor, Washington, D.C.....11 Linden St.
76. D. H. Oppenheim, New York,Queen's Hotel.
77. Mrs. S. Oppenheim, New YorkQueen's Hotel.
78. W. J. Beal, Agricultural College, Mich.31 Avenue St.
79. Mrs W. J. Beal, Agricultural College, Mich ...31 Avenue St.
80. Timothy F. Allen, New York.....Queen's Hotel.
81. P. R. Hoy, Racine, Wis.....24 Ann St.
82. W. H. Ellis, Toronto, Ont.....University College.
83. G. W. Lehmann, Baltimore, Md.....Queen's Hotel.
84. Mrs G. W. Lehmann, Baltimore, Md.....Queen's Hotel.
85. William R. Lazenby, Columbus, O.....Queen's Hotel.
86. A. P. S. Stewart, Lincoln, Neb.....24 Ann St.
87. Mrs. A. P. S. Stewart, Lincoln, Neb.....24 Ann St
88. George C. Caldwell, Ithaca, N.Y....."The Grange."
89. R. T. Colburn, Elizabeth, N.Y.....
90. Mrs. R. T. Colburn, Elizabeth, N.Y*.....
91. J. H. Kedzie, Evanston, IllQueen's Hotel.
92. Mrs. J. H. Kedzie, Evanston, Ill.....Queen's Hotel.
93. O. Chanute, Chicago, Ill.....Queen's Hotel.
94. W. J. McGee, Washington, D.C... ..Rossin House
95. Alexander Winchell, Ann Arbor, Mich.....Walker House.
96. J. F. Cowell, Buffalo, N.YWalker House.
97. Charles E. Bessey, Lincoln, Neb.....31 College St.
98. F. Lamson Scribner, Knoxville, Tenn30 King St.
99. Eugene E. Fish, Buffalo, N.Y.... ..Walker House.
100. Mary A. Booth, Longmeadow, Mass
101. W. Le Conte Stevens, Brooklyn, N.Y....,....Queen's Hotel.
102. Archibald Blue, Toronto, Ont.....11 Linden St.
103. E. W. Hyde, Cincinnati, O.....Palmer House.
104. Angelo Heilprin, Philadelphia, Pa.....Rossin House.
105. Thomas Meehan, Philadelphia, Pa.....Queen's Hotel.
106. A. L. Arey, Rochester, N.Y.....10 North St.
107. James T. B. Ives, Toronto.....429 Spadina Ave.
108. Mrs. A. L. Arey, Rochester, N.Y.10 North St.
109. William Jay Youmans, New YorkArlington Hotel.
110. Mrs. Celia G. Youmans, Mount Vernon, N.Y..Arlington Hotel
111. William R. Pedrick, Lawrence, Mass.....31 Avenue St.
112. Eleanor B. Pedrick, Lawrence, Mass.....31 Avenue St.
113. Martha M. Barker, Lowell, Mass.....,.....31 Avenue St

114. W. O. Atwater, Washington, D.C. Queen's Hotel.
115. Amos W. Butler, Brookville, Ind. Walker House.
116. Mrs. A. W. Butler, Brookville, Ind. Walker House.
117. Henry S. Carhart, Ann Arbor, Mich. Walker House.
118. John B. Smith, New Brunswick, N.J. Keachie's Hotel.
119. W. H. Walmsley, Philadelphia, Pa. Rossin House.
120. James N. Baxter, Brooklyn, N.Y. Rossin House.
121. Mary B. Moody, New Haven, Conn.
122. Arthur E. B. Moody New Haven, Conn.
123. Bushrod W. James, Philadelphia, Pa. Queen's Hotel.
124. John Collett, Indianapolis, Ind. Rossin House.
125. J. E. Denton, Hoboken, N.J. 383 Church St.
126. Miss H. A. Kittredge, North Andover, Mass. . Queen's Hotel.
127. Miss C. A. Watson, Salem, Mass. Queen's Hotel.
128. Thomas D. Robertson, Rockford, Ill. Queen's Hotel.
129. Mrs. Thomas D. Robertson, Rockford Ill. Queen's Hotel.
130. C. A. Hirschfelder, Toronto.
131. George Lincoln Goodale, Cambridge, Mass. Queen's Hotel.
132. George F. Barker, Philadelphia, Pa. Queen's Hotel.
133. Mrs. George F. Barker, Philadelphia, Pa. Queen's Hotel.
134. Miss Clara T. Barker, Philadelphia, Pa. Queen's Hotel.
135. James Hall, Albany, N.Y. Queen's Hotel.
136. Prof. Chase Palmer, Crawfordsville, Ind. Rossin House.
137. Charles S. Hill, Washington, D.C. Queen's Hotel.

Wednesday, August 28th.

138. Chas. H. Chandler, Ripon, Wis. Revere House.
139. L. W. Bailey, Frederickton, N.B. Arlington.
140. Francis Laird Stewart, Murraysville, Pa. Walker House.
141. Geo. C. Comstock, Madison, Wis. Queen's Hotel.
142. Alan Macdougall, Toronto, Ont. 30 Adelaide St. E.
143. Charles M. Knight, Akron, O. Walker House.
144. C. Canby Balderston, Westtown, Pa. Walker House.
145. Frank E. Emery, Geneva, N.Y. 207 College St.
146. Wooster Woodruff Beman, Ann Arbor, Mich. . 29 Grange Ave.
147. Robert B. Warder, Washington, D.C. 15 Division St.
148. Byron D. Halsted, New Brunswick, N.J. 31 College Ave.
149. Joseph F. James, Washington, D.C. Walker House.
150. Mrs. Joseph F. James, Washington, D.C. Walker House.
151. Rev. Corliss B. Gardiner, Rochester, N.Y. 31 Avenue St.
152. Edward P. Thompson, Beaver Falls, Pa.

153. H. T. Eddy, Cincinnati, O.....Palmer House
154. Charles B. Thwing, Evanston, Ill.....246 Jarvis St.
155. Sir Wm. Dawson, Montreal, Que46 St. George St.
156. Wm. Harkness, Washington, D.C.....Rossin House.
157. Ira Remsen, Baltimore, Md.....Rossin House.
158. W. A. Noyes, Terre Haute, Ind.....239 Beverley St.
159. Chas. D. Walcott, Washington, D.C.....429 Church St.
160. H. W. Henshaw, Washington, D.C..... Queen's Hotel.
161. Douglas H. Campbell, Detroit, Mich..... Queen's Hotel.
162. E. H. Preswick, Ithaca, N.Y.....Albion Hotel.
163. Mrs. F. W. Putnam, Cambridge, Mass..... Queen's Hotel.
164. Miss Ethel A. F. Putnam, Cambridge, Mass.. Queen's Hotel.
165. Henry S. Williams, Ithaca, N.Y.429 Church St.
166. Rev. Chas. J. S. Bethune, Port Hope, Ont184 College Ave.
167. Frank Leverett, Madison, WisAlbion Hotel
168. F. W. Clarke, Washington, D.C..... Queen's Hotel.
169. Louis C. Wurtele, Actondale, Que.....96 Bellevue Ave.
170. Mrs. L. C. Wurtele, Actondale, Que.....96 Bellevue Ave
171. Edwin E. Howell, Rochester, N.Y.....29 Grange Ave.
172. Mrs. Edwin E. Howell, Rochester, N.Y.29 Grange Ave.
173. Alexander Charles McKay, Toronto.....
174. Andrew C. Lawson, Ottawa.....16 Washington Ave.
175. H. A. Newton, New Haven, Conn..... Queen's Hotel.
176. Mrs. H. L. Smith, New York.....126 Baldwin St
177. Alexander F. Chamberlain, Toronto.....36 Arthur St.
178. Andrew F. Hunter, Barrie, Ont.....Lucas' House
179. R. S. Woodward, Washington, D C.....Rossin House.
180. Mrs. R. S. Woodward, Washington, D.C.....Rossin House.
181. J. Burkitt Webb, Hoboken, N.J.....283 Church St.
182. Geo. H. Williams, Baltimore, Md..... Queen's Hotel.
183. James H. Pearce, Toronto, Ont.....226 Beverley St
184. Wm S Rogers, Waterville, Me..... Queen's Hotel.
185. A. E. Dolbear, College Hill, Mass.....
186. S. J. Coffin, Easton, Pa.....Elliot House.
187. Miss E. Angle, Lewisbury, Pa.....Elliot House.
188. Mrs. W. D. Boardman, Roxbury, Mass32 John St.
189. J. H. Chapin, Meriden, Conn..... Queen's Hotel.
190. Stephen S Haight, New York.....94 McCaul St.
191. Mrs. Stephen S. Haight, New York.....94 McCaul St
192. Miss Mary Evelyn Haight, New York.....94 McCaul St
193. Samuel Carleton Haight, New York.....94 McCaul St
194. J. R. Eastman, Washington, D C..... Queen's Hotel.
195. Mrs. J. R. Eastman, Washington, D.C..... Queen's Hotel

196.	Ernest Merritt, Ithaca, N.Y.	239 Beverley St.
197.	A. R. Crandall, Lexington, Ky.	Rossin
198.	Horace C. Hovey, Bridgeport, Conn.	Keachie's Hotel.
199.	Homer T. Fuller, Worcester, Mass.	Rossin
200.	Mrs. H. T. Fuller, Worcester, Mass.	Rossin
201.	Charles S. Howe, Cleveland, Ohio.	Rossin House.
202.	Walter Hough, Washington, D.C.	25 Murray St.
203.	John J. Mackenzie, Toronto, Ont.	222 Sherbourne St.
204.	C. H. McLeod, Montreal, Que.	432 Jarvis St.
205.	Miss Nellie B. West, New York	Lakeview Hotel.
206.	W. H. Hollinshead, Nashville Town.	13 St. Patrick St.
207.	Charles W. Hargitt, Oxford, Ohio	Walker House.
208.	James Fletcher, Ottawa	178 St. Patrick St.
209.	J. Owen Dorsey, Takoma Park P.O., D.C.	25 Murray St.
210.	Benjamin Lord, New York	Queen's.
211.	Mrs. Benjamin Lord, New York	Queen's.
212.	G. K. Gilbert, Washington, D.C.	Queen's.
213.	Edmund O. Hovey, Waterbury, Conn.	25 Murray St.
214.	George Bryce, Winnipeg, Man.	The Pines, Davenport.
215.	Frank T. Shutt, Ottawa, Ont.	"Rosedale Cottage
216.	P. H. Bryce, M.D., Toronto	
217.	E. D. Preston, Washington, D.C.	350 King St.
218.	Edward Dummer, Boston, Mass.	383 Church St.
219.	Mrs. Edward Dummer, Boston, Mass.	383 Church St.
220.	Rollin D. Salisbury, Beloit, Wis.	Queen's.
221.	J. Francis Williams, Salem, N.Y.	Queen's.
222.	H. H. Lyman, Montreal, Quebec	Queen's.
223.	George Iles, New York	Elm Avenue.
224.	R. A. F. Penrose, Little Rock Ark.	Queen's.
225.	Wm. H. Hale, Albany, New York	236 Adelaide St.
226.	Harrison Garman, Lexington, Ky.	31 College St.
227.	Romyn Hitchcock, Washington, D.C.	Queen's.
228.	Mrs. Romyn Hitchcock, Washington, D.C.	Queen's.
229.	Mrs. G. K. Baldwin, Detroit, Mich.	Rossin.
230.	Mrs. L. H. Trowbridge, Detroit, Mich.	Rossin.
231.	N. L. Britton, New York	Queen's.
232.	Mrs. N. L. Britton, New York	Queen's.
233.	Miss H. Lousie Britton, New York	Queen's.
234.	Miss Mary A. Knight, New York	Queen's.
235.	Miss Millie Timmerman, New York	Queen's.
236.	M. B. Waite, Washington, D.C.	
237.	B. T. Galloway, Washington, D.C.	Rossin House.
238.	James T. Lusk, Marietta, Ohio	

239. Charles Schaffer, Philadelphia, Pa. Rossin House.
240. Mrs. Charles Schaffer, Philadelphia, Pa. Rossin House.
241. John McLean, Moosejaw, N.W.T.
242. Luther M. Donaldson, Nashville, Tenn.
243. Edward W. Morley, Cleveland, Ohio. Queen's Hotel.
244. Albert A. Prescott, Ann Arbor, Mich. Queen's Hotel.
245. Thomas Joseph Workman Burgess, Hamilton, Ont 56 Henry St.
246. Albert S. Bickmore, New York. Queen's Hotel.
247. Edward L. Nichols, Ithaca.
248. Clarence M. Weed, Columbus, Ohio 31 College St.
249. J. F. Whiteaves, Ottawa, Ont 16 Grosvenor St.
250. Marcus Benjamin, New York Rossin House.
251. C. H. Hitchcock, Hanover, N.H. 483 Church St.
252. Miss Maria P. Hitchcock, Hanover, N.H. 383 Church St.
253. A. Isabel Mulford, Orange, N.J. 79 Shuter St.
254. C. A. Waldo, Terre Haute, Ind. 239 Beverley St.
255. Henry H. Wing, Ithaca, N.Y. Walker House
256. Thomas Gray, Terra Haute, Ind. 239 Beverley St.
257. Mrs. E. O. Hovey, Waterbury, Conn. 25 Murray St.
258. Wm. Dorr Boardman, Roxbury, Mass. 32 John St.
259. James Mills, Guelph, Ont. Rossin House.
260. Edgar G. Miller, Baltimore, Md. Queen's Hotel
261. Robert Hay, Junction City, Kan. Palmer House
262. Frank Fitz Payne, Toronto, Ont.
263. Charles B. Atwell, Evanston, Ill. 21 Carlton St.
264. J. M. Rice, Annapolis, Md. Queen's.
265. Henry James, M.D., Toronto, Ont 204 Spadina Ave.
266. E. N. S. Ringueberg, Lockport, N.Y.
267. W. R. Warner, Cleveland, Ohio. Queen's.
268. Jefferson E. Kershner, Lancaster City, Pa. Queen's.
269. T. H. McBride, Iowa City, Ia. Arlington.
270. Mrs. T. H. McBride, Iowa City, Ia. Arlington.
271. Arch. B. Macallum, Toronto.
272. John Perrin, Montreal, Que.
273. Cady Staley, Cleveland, O. Queen's.
274. Archibald Hope Young, Toronto, Ont.
275. Mrs. W. A. Rogers, Waterville, Me. Queen's.
276. James Gayford Witton, Toronto, Ont. 118 D'Arcy St.
277. Taylor Reed, Princeton, N. J. Queen's.
278. Joseph Cummings, Evanston, Ill. Queen's.
279. Henry Farquhar, Washington, D.C.
280. Mrs. H. Farquhar, Washington, D.C.
281. John Lucas, Philadelphia, Pa. "Erneleigh."

282. Mrs. John Lucas, Philadelphia, Pa....."Ernesleigh."
283. Fred. Hoffmann, New York.....Queen's.
284. Albert Lucas, Philadelphia, Pa.....
285. Mrs. L. E. Holden Cleveland, O.....Queen's.
286. Persifor Frazer, Philadelphia, Pa.....Queen's Hotel.
287. H. P. Cushing, Cleveland, O.....Queen's Hotel.
288. Joseph J. Walton, Philadelphia, Pa.....Walker House.
289. G. W. Hough, Evanston, Ill.....Queen's Hotel.
290. Edward S. Morse, Salem, Mass.....Prof. R. R. Wright's.
291. G. P. Thruston, Nashville, Tenn.....Rossin House.
292. James F. Kemp, Ithaca, N. Y.....429 Church St.
293. A. V. E. Young, Evanston, Ill.....Walker House.
294. Leon P. Kinnicott, D. Se. Worcester Poly. Inst., Rossin House.
295. Mrs. Leon. P. Kinnicott, Worcester Poly. Inst., Rossin House.
296. W. L. Merritt.....40 St. George St.
297. Garrick Mallery, Washington, D. C.....Queen's Hotel.
298. Mrs. Garrick Mallery, Washington, D. C.....Queen's Hotel.
299. John Galbraith, Prof. of Engineering.....62 St. Mary's St.
300. Thos. M. Jackson, C. E., D. Sc., Morgantown, W. Va., Queen's Hotel.
301. Mrs. John C. Branner, Little Rock, Ark.....Queen's Hotel.
302. Albert Lufkin, Newton, Iowa.....159 Simcoe St.
303. Mrs. F. Lufkin, Newton, Iowa.....159 Simcoe St.
304. Miss L. Lufkin, Newton, Iowa.....159 Simcoe St.
305. Miss N. Lufkin, Newton, Iowa.....159 Simcoe St.
306. Harris J. Ryan, Ithaca, N. Y.....239 Beverley St.
307. Prof. R. B. Fulton, University, Miss.....Walker House.
308. W. W. Campbell, Ann Arbor, Mich.....29 Grange Ave.
309. Dr. G. S. Ryerson, Toronto.....60 College Ave.
310. Prof. R. R. Wright, Toronto.....
311. Alex. Ziwet, Ann Arbor, Mich.....29 Grange Ave.
312. S. F. Emmons, Washington, D. C.....
313. M. A. Veeder, Lyons N. Y.....Rossin House.
314. E. W. Claypole, Akron, Ohio.....
315. Katharine B. Claypole, Akron, Ohio.....
316. Prof. Geo. D. Olds, Rochester, N. Y.....29 Grange Ave.
317. Mrs. G. D. Olds, Rochester, N. Y.....29 Grange Ave.
318. Mar. Leland, Rochester, N. Y.....29 Grange Ave.
319. Mrs. Albert S. Bickmore, New York.....Queen's Hotel.
320. Prof. E. H. S. Bailey, Lawrence, Kan.....Elliott House.
321. F. P. Leavenworth, Haverford College, Pa....Albion Hotel.
322. Mrs. F. P. Leavenworth, Haverford College, Pa. Albion Hotel.
323. Miss Esther Leavenworth, Haverford Col, Pa. Albion Hotel.
324. Prof. R. H. Ward, Troy, N. Y.....Palmer House.

325. James T. Hoyt, New York.....The Arlington.
 326. Mrs. James T. Hoyt, New York.....The Arlington.
 327. W. M. Dudley, Ithaca, N.Y.....Rossin House.
 328. John W. Langley, Pittsburg, Pa.....Arlington.
 329. Mrs. J. W. Langley, Pittsburg, Pa.....Arlington.
 330. Prof. Mortimer E. Cooley, Ann Arbor, Mich..Arlington.
 331. Mrs. M. E. Cooley, Ann Arbor, Mich.....Arlington.
 332. F. W. Kuhne, Fort Wayne, Ind.....79 Shuter St.
 333. Mrs F. W. Kuhne, Fort Wayne, Ind.....79 Shuter St.

Thursday, August 29th.

334. Atreus Wanner, York, Pa.....Walker House.
 335. C. Fessenden, Napanee, Ont.....126 Seaton St.
 336. DeCost Smith, Skaneateles, N.Y.....Rossin House.
 337. Mrs. E. R. Smith, Skaneateles, N.Y.....Rossin House.
 338. Miss C. M. Smith, Skaneateles, N.Y.....Rossin House.
 339. Mr. E. B. Reed, London, Ont.....98 St Patrick St.
 340. T. Griswold Comstock, St. Louis, Mo.....Queen's Hotel.
 341. W. B. Clark, Baltimore, Md.....Queen's Hotel.
 342. F. D. Adams, Montreal, Que.....Queen's Hotel.
 343. Miss Charlotte C. Barnum, New Haven, Conn..Queen's Hotel.
 344. Mary B. Dewing, Stamford, Conn.....Queen's Hotel.
 345. Stephen Bush, Waterford, N.Y.....Palmer House.
 346. Mrs. Stephen Bush, Waterford, N.Y..Palmer House.
 347. T. C Chamberlin, Madison, Wis.....Queen's Hotel.
 348. G. B. Halsted, Austin, Texas.....Rossin House.
 349. Dr. A. M. Rosebrugh, Toronto, Ont.....131 Church St.
 350. Charles F. Rand, M.D., Batavia, N.Y.....Queen's Hotel.
 351. W. H. Jenk, Brookville, Pa.....Elliot House.
 352. Mrs. J. G. Dolley, Albion, N.Y.....128 Baldwin St.
 353. Emma R. McGee, Farley, Iowa.....St. James.
 354. W. K. Moorehead, Washington, D.C.....38 Rossin House.
 355. J. C Hamilton, Toronto.....
 356. E. B. Frost, Hanover, N.H.....Rossin House.
 357. E. H. Roberts, Oxford, Miss.....Walker House.
 358. D. R. Keys, Toronto.....
 359. Norman B. Wood, Cleveland, Ohio.....94 Baldwin St.
 360. E. B. Shuttleworth, Toronto.....220 Sherbourne St.
 361. J. E. McDougall, Toronto.....121 Carlton St.
 362. C. S. Street, Roxbury, Mass.....32 John St.
 363. G. B. Abrey, Toronto.....23 Beaconsfield Av.

364. Charles P. Benna, Schenectady, N.Y.....	Walker House.
365. Thomas Ewing, Jr., Washington, D.C	{ Cor. Queen's Park and Joseph St.
366. W. H. Bristol, Hoboken, N.J.....	
367. E. Renel Smith, Skaneateles, N.Y.....	Rossin House.
368. Mrs. Geo. H Williams, Baltimore, Md.....	Queen's Hotel.
369. Mrs. Jas. Lewis Howe, Louisville, Ky	25 Murray St.
370. W. S. Blackstock, Toronto	20 Homewood Ave.
371. P. J. Farnesworth, Clinton, Iowa	
372. W. R. Head, Chicago, Ill.....	
373. A. C. Gill, Northampton, Mass.....	25 Murray St.
374. Dr. Robert Bell, Ottawa, Can.....	75 Peter St.
375. William Houston, Toronto.....	Governm't Library.
376. R. A. Thompson, Hamilton, Ont.....	112 Robert St.
377. Chas. S. Cook, Evanston, Ill.	Rossin House.
378. Gustav Lindenthal, Pittsburgh, Pa.	Walker House.
379. Wm. A. Burman, Winnipeg, Man.....	Continental Hotel.
380. G. C. Creelman, Mississippi	101½ Bleeker St.
381. Amos R. Wells, Yellow Springs, Ohio.....	
382. W. E. Boustead, Toronto	200 Jarvis St.
383. Dr. W. J. Hoffman, Washington, D.C.....	Rossin House.
384. Mrs. W. J. Hoffman, Washington, D.C.....	Rossin House.
385. Retta Lyons, New Orleans, La.....	Rossin House.
386. Ella Smith, Hagerstown, Md.....	Rossin House.

Friday, August 30th.

387. Prof. C. O. Bates, Cedar Rapids, Iowa.....	Queen's Hotel.
388. Dr. L. Schoney, New York.....	Rossin House.
389. John R. Bartlett, Providence, R.I.....	Queen's Hotel.
390. Prof. Arthur B. Willmott, Yellow Springs, Ohio.....	
391. Mrs. George Bryce, Winnipeg, Man	"The Pines."
392. L. E. Holden, Cleveland, Ohio	
393. A. F. Holden, Salt Lake City, Utah	
394. Dr. A. R. C. Selwyn, Ottawa, Can.....	Rossin House.
395. Arthur G. Clement, Batavia, N.Y.....	Queen's Hotel.
396. Dr. W. Theophilus Stuart, Toronto.....	197 Spadina Ave.
397. Prof. Henry B. Nason, Troy, N.Y.....	Queen's Hotel.
398. T. D. Ledyard, Toronto	4 Ontario Chambers.
399. Oscar C. Fox, Washington, D.C.....	Walker House.
400. Louise H. Fox, Washington, D.C	Walker House.
401. Mrs. Helen R. Taylor, Toronto	422 Jarvis St.

402. Henry C. Beadleston, New YorkQueen's Hotel.
403. S. H. Janes, Toronto.....
404. E. B. Treat, New YorkThe Arlington.
405. Mungo Turnbull, Toronto.....18 Denison Square.
406. Edgar Frisby, Washington, D.C.....
407. B. E. Walker, Toronto99 St. George St.
408. Chas. W. Smiley, Washington, D.C.....
409. Prof. W. J. Ashley, TorontoToronto.
410. Geo. B. Sweetnam, Toronto.....152 Carlton St.
411. Wilm Knox, Toronto607 Sherbourne St.
412. W. T. Jennings, Toronto.....20 College Ave.
413. J. A. Brashear, Alleghany, Pa.....Walker House.
414. Mrs. J. A. Brashear, Alleghany, Pa.....“
415. Prof H Montgomery, Grand Forks, Dak.....Rossin House.
416. Dr. Jas. F. W. Ross, Toronto.....Sherbourne St.
317. Miss Kate Loudon, “83 St. George St.
418. Miss Olive Loudon, ““ “
419. Prof. J. S. Newberry, New YorkQueen's Hotel.
420. Jas. Bain, jr., Toronto Public Library.....90 Charles St.
421. Mrs. James Loudon, Toronto83 St. George St.